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### Crisis or renewal: higher education in the 1980s

## Inheritance of the Robbins/Crosland era

In this cold dry summer when Britain's benign culture, even the British character itself, seem to be passing through a period of strain and crisis on a scale not experienced since the years surrounding the First World War (or even, some might argue, since the successful consolidation of industrial society in the mid-nineteenth century), it is hardly surprising that Britain's universities, and polytechnics and colleges, have their troubles too.

Some are almost mechanical, like the cuts in public expenditure, the UGC's selectivity strategy, the clumsy and crude capping of the advanced further education pool, "full-cost" fees for overseas students, and so on. Others are closer to the spiritual. The doubts cluster like crows. How can higher education in the austere eighties sustain the more liberal role it acquired during the Robbins expansion in a fit half of absent-mindedness half of acquisitive imperialism? Should it ever try to, whisper the more conservatively inclined? Liberals ask rather faintly how that momentum can be maintained if doubting (traditionalists can no longer be bribed by ever increasing resources. Will higher education be faced with a stark choice between students (= jobs and money) and standards (= academic integrity?) when and if demographic decline bites? What is the future of the polytechnic alternative in a "steady-state" or even shrinking system? And so the questions go on.

But even these questions, important as they are, are out-ranked by questions of greater significance. After all, the "mechanical" troubles, however much they dominate immediate higher education policy, are concerned essentially with the political dimensions of the system, the turbulent and quickly changing surface layer of the whole enterprise. Even the "spiritual" troubles only penetrate one layer deeper, to a sub-surface layer where the relationship is shaped between higher education and our society and economy through the market, politics, and culture.

Beneath both is a third layer moved by a quite different rhythm, the *longue durée* of the university. It is in this academic layer where truth is searched for and, if never found, at any rate approached that the heart of higher education is to be found. It is here that the remarkable intellectual creativity of British higher education since at least the 1930s, in pure science initially and more recently in the social sciences and humanities, is operating. It is a creativity that does not appear to be diminishing. In physics, biology, history these are years of exceptional excitement. So the most important question of all is whether this creativity will continue with the same vigour into the future or whether it will be slowly eroded by the storms above, by the troubles both mechanical and spiritual with which higher education will have to live during the next few years. Only if the latter is true will it be fair to talk of a crisis in British higher education that matches in intensity the crisis in British society.

That is the question that will be addressed but certainly not answered over the next four weeks. Is higher education facing a really fundamental crisis, one that affects its academic values, or does it simply have to come to terms with a period of difficulty and uncertainty brought on by external accidents and threats? Or to put it another way, how deep into higher education's *longue durée* will the present and obvious crisis of resources cut? What follows is an unorthodox mixture of opinion, information, and speculation - part-

leader, part-report, part-essay. This week, the subject is higher education's inheritance, for it is only by trying to understand the shape and purposes of the total enterprise that the present challenge can be gauged. Next week the mood of the universities at the end of the Robbins era, and the following week the prospects for the polytechnic alternative after a decade of practice will be discussed. Finally, this series will end with a speculative account of how the many pressures on our system may produce a new, and hopeful, synthesis.

First, the inheritance. The university even in its most traditional form is not an especially ancient institution (despite Bologna, Paris, Oxford and the rest). Three centuries of neglect, decay, and even obscurantism separate the medieval universities from the reformed institutions of the nineteenth century which are the true ancestors of today's universities. Three great intellectual movements, the Renaissance, the scientific revolution, and the Enlightenment, successively passed the university by. A fourth, the industrial revolution, which reshaped the contours of intellectual life as decisively as the first three, also took place almost entirely outside the university.

Indeed the traditional university - an ideal and arbitrary type that could be said to have flourished from the mid-nineteenth to mid-twentieth centuries especially in non-science disciplines and in institutions in non-industrial towns - never really overcame its marginality in the intellectual market. Certainly it never achieved or even aspired to the "market leader" or occasionally monopoly position captured by the modern, post-1945, university. It saw its job as to teach students rather than to discover new knowledge. Cardinal Newman, the household god of the traditional university, yet it is wrong to imagine that there was as sharp a break in the quality, the values, of higher education as that which occurred in its quantity. The modern university is the result of a process of accretion as much as of evolution or reform.

However, it can be argued that there was a significant change in the university's conception, even ideology, of knowledge. This started in the nineteenth century with the rise of the natural sciences, which became as central to the modern university as classics, philosophy and history had been to the traditional university. But so rapid and so destabilizing have been advances in the theoretical foundations of the natural sciences that they can never be restrained within an essentially cultural definition of the intellectual tradition. Their links with technology and so with industrial society also threaten the subtle links between the traditional university's ideology of knowledge and a privileged social order. Finally they have as their priority the discovery and codification of theoretical knowledge rather than the satisfaction of the culturally defined intellectual needs of students.

The revolutionary impact of the natural sciences spread in time to all disciplines, with the humanities last to be captured. Disciplines came to be organized on the basis of the degree of association between theoretical preoccupations rather than of the coherence of undergraduate teaching. Disciplines divided and sub-divided. The growing prominence of new disciplines derived from the expanding "service" role eagerly taken up by the modern university accelerated this process. Scholars also became more professional in their work as teachers and above all as researchers, which again increased the distance between disciplines. The modern university valued academicism more highly as an approach to intellectual life than the traditional

university which had clung to a form of humanism however tainted by social privilege. Two important results flowed from this change. First, the intellectual culture was splintered into many not easily reconcilable fragments. Second, the university came less and less a community of academics with similar values than they could share, and more simply shared bureaucratic environment.

It is simply wrong to imagine the academicism, in the sense of the discovery and codification of (mainly theoretical) knowledge, has the strongest claim to be regarded as the core preoccupation of the university.

If it has, it is a recently established claim. It can be argued quite plausibly that the cultivation of rationality within a specific cultural context has as strong a claim. But even if the first claim is allowed it is not much help in sorting out the core purposes of the university from those that are more peripheral. The fantasy and re-fracturing of disciplines have been accompanied by the evolution of mini-cultures within disciplines which those outside find difficult to penetrate.

The dilemma for higher education in 1981 is clear. At no time since 1945 has there been a more urgent need to establish priorities, within the system, within sectors, within institutions, within departments, and within disciplines; but at no time since 1945, because of the developments within the modern university which have been described, has been more difficult to find the for a consensus about how to establish priorities. It goes much deeper than an immediate shortage of cash. Indeed, this dilemma exists and even intensifies whatever the level of the university grant or the AFE pool. This ambiguity and confusion are endemic qualities of the modern university.

But there is also a further dimension. In certain important respects the development of the modern university has offended the fundamental values inherited from the traditional university. First, we have acquired, albeit mindlessly perhaps, an intelligentsia, especially and most intensely in some social science disciplines, and to put it at its simplest we are not entirely convinced that this has been a good thing. Secondly, there is a growing tension between teaching and research, especially in the natural sciences, which has not only created a host of practical and expensive difficulties but also fostered a hoary myth about university education. Thirdly, the heart of academicism at the heart of the modern university and the discipline of elitist humanism has been undermined. Ideology and pragmatism. Ideology and pragmatism have reared their ugly heads, even in the once pure humanities. Historians look longingly at the *Annales* school across the Channel. English academics in structuralism and post-structuralism. There is a growing interest in Marxism. All very disturbing.

None of this, of course, is conclusive evidence of a deep crisis in British intellectual and university life. It is perhaps slight evidence of a *prima facie* case for believing in the drift of higher education's *longue durée* over the past 25 years may be at least as interesting as one or alarming depending on one's viewpoint) as marginal shifts in long-term patterns and policies. It is at least a thesis worth exploring.

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Peter Scott

● Laurie Taylor whose column usually appears on this page, is on holiday.

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## Oxford aims to save agriculture

by Paul Flather

Oxford University has set up a working party to examine ways of relocating the work of the threatened department of agriculture and forestry sciences so that it comes within the scope of applied biological sciences which are to be expanded.

This follows the recommendation from the University Grants Committee to phase out undergraduate teaching in agriculture and forestry at Oxford as part of the 5.1 per cent cuts in the recurrent grant up to 1983-84.

The working party, chaired by Professor Peter Armitage, professor of bio-mathematics, will look for savings in the department, ways of redefining the courses and honours schools, and of redeploying the 34 dons in the department to avoid compulsory redundancies.

The key being used by Oxford is that of redefining the work of a threatened department, in this case courses geared to the economic and technical application of biological sciences.

Potential applicants to the department are already being advised to opt for alternative universities if they plan to take the course as a vocation, but not if they want to study agriculture or forestry as a science. There are usually about 40 places each year.

Professor David Smith, professor of rural economy and head of the department, said academic staff would have to make a very small leap to switch from their current teaching to taking applied biology courses. They already taught some pure biology.

The first meeting of the Armitage working party also considered savings by vacating one of the three buildings used by the department, probably one used by agricultural economics in Little Clarendon Street. It is expected to report in the autumn.

Meanwhile the university is still considering the wider implications of the UGC letter and had taken no decisions about student numbers or other cuts. A moratorium on all posts is already in force, and all departments have been asked for up to 3 per cent savings this year and slightly more next year.

Details for a premature retirement scheme which could apply to all those aged 55 or more are being finalized and expected to lead to significant savings on staff costs. Cambridge has already unveiled its scheme for those 60 or more and received informal applications.

They feel that the larger colleges at London receive too much prominence and attract an unfair proportion of the court grant.

## Obey UGC or lose research cash

by Robin McKie  
Science Correspondent

Universities have been told to impose strict selectivity in implementing the University Grants Committee cuts package or face the prospect of losing further finance from the Science and Engineering Research Council.

In letters to all vice chancellors, the council has warned that departments failing to provide acceptable laboratory facilities will be stripped of their SERC research grants. "We feel it is necessary to concentrate our resources where the universities are able to provide proper backing", said the letter.

The message is being interpreted as an indication of broad support for the UGC in aiming for selectivity in imposing the Government's 15 per cent university funding cut. However, many SERC officials feel that the UGC has fudged the issue and not properly earmarked which departments and subject areas should be discontinued or reduced.

By allowing universities the chance to spread the cuts, the SERC could be left in the position of

having to pay even more of its money on basic equipment that well-founded laboratories should receive from the UGC. Now the SERC has warned vice chancellors that there is a limit to the extent to which it is prepared to do this and that universities must think very carefully about how they impose cuts.

"We are concerned that our support should not be wasted due to the difficulties the universities may experience in providing the sound base for research that is a necessary feature of the 'dual-support system'", the letter states. It reminds vice chancellors that the council's grant condition number 16 allows the SERC to cancel a grant if it feels the project's broad objectives cannot be achieved.

The council has highlighted three universities which it feels are the only examples of the UGC positively recommending closure of a science or engineering department. These are biological sciences at Aston and Bradford universities and material science at Sussex.

### SERC issues warning to university chiefs

In separate letters to these universities the council says it has "reluctantly decided that it would not be in the best interests of the work we support to continue to offer grants and studentships to those departments".

However, the council has pledged that students on awards will continue to receive their support in another department or university and have written to all students on their grants offering help.

The council is also considering providing special posts for top researchers whose departments are closed. These would be similar to their present special release fellowships which allow academics to leave departments to carry out pure research for five year periods. The council feels this is insufficient time in the cases of redundant scientists and has not yet agreed to any specific scheme. When it does so, this will be longer than present release fellowships, probably in the region of about 10 years.

## IBA delays report on political radio coverage

by Charlotte Barry

The publication of a highly critical report on local radio's contribution to political education is being held back by the Independent Broadcasting Authority.

It is understood the delay is being caused at the highest level by IBA's head of radio, Mr John Thompson, who is demanding a "toning down" of the text.

The report was written by Birmingham University extra-mural lecturer Dr Tony Wright who was awarded an IBA fellowship to look at local radio's provision of political education for the community.

The aim was to see how local radio's initial promise to play an educational role in promoting political literacy compared with its performance. This was done by analysing news content and local election coverage on a number of stations, monitoring phone-ins, and interviewing local politicians, broadcasters and listeners.

Dr Wright concludes that the amount of public affairs broadcasting on local radio is disappointingly and surprisingly meagre, and contributes little to the promotion of political awareness.

His report says: "A political education involves an understanding of the issues and institutions of the political system and a participatory engagement with them. It would be

difficult to claim that the output of local radio reflects a commitment to the diffusion of a political literacy of this kind among its audience."

It suggests that political education does not readily mix with the "homogenizing and trivializing" influence of commercial local broadcasting. This is relating to a lack of expertise among staff and the uncertain role of political programmes in the organizational structure of local stations.

Dr Wright said this week: "I was told originally that publication was to be in early January. It has been deferred several times since and now no firm publication date is being given."

The hold-up is also being questioned by the report's supervisor, Professor Stuart Hall, professor of sociology at the Open University, who will be approaching the IBA.

He said: "This is one of the most extensive pieces of academic work done on local radio. I think there's a very important principle at stake. If they want advertising puffs they should fund an advertising agency to do it."

An IBA spokesman admitted there had been a delay in publication, which would take place shortly. He refused to comment on whether the head of radio, who is on leave, was demanding changes in the text.

## Watch out, thesis thief about!

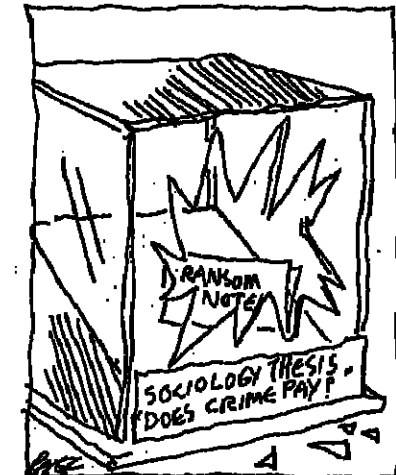
from Geoff Maslen

MELBOURNE  
Universities in Australia have been alerted to a new form of campus crime - thesis theft.

Earlier this year, 51 sociology theses were stolen from the Australian National University in Canberra, by a group labelled the "rent-a-thesis" mob. Since then there have been several reported thefts of psychology theses from ANU and this has prompted the vice chancellors' committee to issue a warning to students and department heads.

The sociology theses were taken from a glass case where they were on display.

The existence of a black market in undergraduate and postgraduate theses in America has been known for many years. But now academics fear the rent-a-theses organization may be infiltrating the country. A spokesman for the ANU claimed that anxious students in Australia or Third World countries could pay up



to £500 for an "original", well-researched and well-written thesis. But sociologists at other universities reckoned the thieves would be lucky to get £25.







## Survey into needs of young sociologists demand flexibility

by Charlotte Barry

A major investigation into how the educational needs of 16-19-year-olds can be met in the next decade will be launched by the Inner London Education Authority next month.

It will be made by a special sub-committee which will meet every three weeks under the chairmanship of Mr Bryn Davies, the leader of ILEA.

The committee plans to review both full and part-time provision for the age group within the authority with a view to making its first recommendations by Christmas.

Mr Davies said: "What we provide for the 16-19-year-olds is one of the most vital questions facing the education service at the beginning of the 1980s. We will want to review every factor bearing on this complex issue while bearing in mind the urgent need to establish a coherent policy."

Amongst the matters the sub-committee will consider in the near future are financial support for students, counselling and advice for young people and the possibility of co-operation with the Greater London Council.

A current survey of young people's attitudes to post-16 education in one ILEA division will be widened and its results presented to the sub-committee as quickly as possible.

"Our first aim will be to establish what it should be possible to offer consistently to all 16-plus inner London pupils and students. Then it will be sensible to consider how best that offer can be realized in an educationally sound and economically reasonable way," Mr Davies said.

Currently ILEA provides for the 16-19 age group in both schools and colleges. The latter were reorganized during the 1970s to form 15 general colleges providing a wide range of courses. Recently these were awarded the major share of a £4m package of measures to help the young unemployed.

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We have been asked to point out that with regard to an article in *The Times* on July 31, Mrs Lilian Geach is still head of the department of business studies at South Bank polytechnic.

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Short-sighted policies are a root cause of the crisis facing the Social Science Research Council, according to a paper published this week by Glasgow University's sociology department.

It places major blame on the council's shift towards centrally controlled research projects and away from funding of topics submitted by individual academics.

"In our view this is a short-sighted and bankrupt policy which has amplified rather than attenuated the SSRC's problems," says the paper by sociologists Dr Jason Ditton of Glasgow University and Mr Robin Williams of Durham University.

The authors recommend that the SSRC set up a new award scheme that would combine the flexibility of existing programme grants with the size of project grants.

This would enable lone researchers to carry out low-budget research into new developments or unresearched aspects of society, they contend. The grants would be awarded free of any specifications and applicants would not have to have a PhD.

The recommendations are contained in a critical analysis of the history and development of the SSRC since it was awarded its Royal Charter in 1965.

The paper accuses the SSRC bureaucracy of effectively wresting control of publicly funded research from those who carry it out. This has been done by shunting the council's 14 subject committees down the decision-making structure away from the centre of power.

The net result has been that funds available for "responsive" rather than "generated" research have suffered disproportionately from budget cuts over the last decade.

The authors say this "creeping dirigisme" has been exacerbated by the earmarking of scarce funds for five designated research centres as well as the four older research units.

Dr Ditton said this week: "There is a dangerous and hidden assumption that research becomes more useful if the content and topic are decided by bureaucrats rather than practitioners. There also seems to be a drawing into Whitehall of the SSRC itself, which seems to be losing its independence."

"The Fundable versus the Double: sweet grapes, sour grapes and the SSRC," by Jason Ditton and Robin Williams, price £1.85, is available from the Department of Sociology, University of Glasgow, 61 Southpark Avenue, Glasgow.

The inquiry into the future of higher education sponsored through the Leverhulme Trust is to be extended to include an extra seminar covering the role of the arts, and the role of the non-vocational curriculum.

The seminar, probably to be held in early April, will discuss the way higher education provides training for professional arts and performers as well as the teaching of the arts as part of the national heritage.

The impetus has come from the Gulbenkian Foundation, which has put forward £10,000 to sponsor the seminar. There was no plan within the original framework of seven two-day seminars of the Leverhulme inquiry to look at the arts.

The inquiry director, Professor Gareth Williams, professor of educational planning at Lancaster University, said the treatment of the arts in higher education has remained mostly within the confines of particular academic disciplines. The seminar will look at how they could be integrated into the general curriculum.

He said the Robbins Committee had recognized the role of music within universities but had been somewhat doubtful about the other arts. With the growth since then in performing arts and fine arts a fresh look was needed.

The seminar will be chaired by Dr Christopher Ball, warden of New College, Oxford, and run by the Society of Research into Higher Education. The next Leverhulme seminar will be on institutional adaptation and change.

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The impetus has come from the Gulbenkian Foundation, which has put forward £10,000 to sponsor the seminar. There was no plan within the original framework of seven two-day seminars of the Leverhulme inquiry to look at the arts.

## Drama cuts anger lecturers

by Paul Flather

Drama lecturers in the universities are angry at the way their departments have been hit by cuts, based in some instances on "ill-informed and arbitrary criteria."

The Standing Committee of University Drama Departments (SCUDD) set up to discuss common problems of drama lecturers, has written to the University Grants Committee asking for details about the way the cuts were decided.

The UGC letters recommending specific cuts in drama at six of the universities offering the subject, led to reductions in student numbers expected at some of other 13 universities as well.

The worst affected are Warwick, Lancaster, Kent, Exeter, Leeds, Hull, which with about 100 students and a fully equipped studio department is one of the most established departments in the country.

SCUDD called an emergency meeting in London just one day after the UGC letters were sent. Representatives from almost all the universities agreed a strategy for first finding how the cuts were made before mounting a vigorous pointing out that in some drama departments have not been visited for eight years, and the applications are high the UGC criteria for cutting appear not to have been justified.

Mr Donald Roy, director of drama at Hull, said: "It does seem to me that there is a concerted campaign against drama as a university subject, and an academic subject. Drama remains a university subject. It is a social and communal activity. It is our right not just a branch of culture."

Professor Michael Booth, director of theatre studies at Warwick, said: "Drama has been treated harshly than almost any other subject. Someone has decided that drama is a practical degree, it is what is irrelevant to national needs, decided to cut." Warwick also had a UGC visit since 1973.

Since 1979, many budgets had been slashed and inflation had been reduced by more than 25 per cent. Cash costs £50,000 were common. This meant a reduction of about 10,000 books per academic library - or four books per student. "Yet students on a maximum grant have only a notional £150 to spend on essential books and materials from a wide range of support material from the library. It is trends continue this would not be there," Mr Davies said.

The Library Advisory Council to become the Library and Information Services Council in line with an undertaking given to the Select Committee on Education.

Professor Wilfred Saunders, director of the Postgraduate School of Librarianship and Information Science at Sheffield University, is a new chairman.

More than 300 offers of help, including donations, were received by Salford University in the week it launched CAMPUS, and letters of support are still pouring in.

The Campaign to Promote the University of Salford was launched in the face of a 44 per cent cut in income inflicted by the University Grants Committee.

Two hundred firms helped to launch the campaign and paid for advertisements in national newspapers, and another 60 have written offering their support and some sending money.

Former students have offered to lobby their MP to make the cause known in the offices where they work, and to write to the UGC.

One first-year student in the department of business and management walked into the CAMPUS office after reading the advertisement and gave a cheque for £10. Many more have also rung the university and how they can help.

Members of five other universities have written to ask for more details. One is a student from Essex who has written to the UGC about the effects of public expenditure cuts on universities for his third-year project.

A Salford spokesman said: "All the university has been very encouraged by the response. It has received after such a short time."

## North American news Marxist loses job bias claim

from Olga Wojtas

WASHINGTON  
A Marxist professor was not discriminated against when he was not appointed chairman of the University of Maryland's government and politics department, a Federal court has ruled.

Professor Bertell Ollman, creator of the immensely popular board game, *Class Struggle*, a Marxist version of Monopoly, has been fighting for three years for \$300,000 (£160,000) compensation. He claimed he was denied the job because of his political beliefs, and that his constitutional rights had thus been violated.

In 1978, Professor Ollman, who teaches political science at New York University, was one of two nominees for the chairmanship, and was actually offered the post by university officials, subject to the approval of the university president and board of regents.

However, some of the regents and several state legislators, including Maryland's acting governor, objected strongly and publicly to the appointment because Professor Ollman was a Marxist.

The university's president did nothing about the appointment before his retirement a short time later. But within three weeks of taking office, Mr John Toll, his successor, announced that the would not approve Professor Ollman's chairmanship.

Mr Toll has consistently asserted that his decision had nothing to do with Professor Ollman's political beliefs, but was made because he was not the best-qualified person for the job.

In the recent ruling, Federal Judge Alexander Harvey said Mr Toll's decision was indeed not based on the "constitutionally impermissible reason" of Professor Ollman's politics. It had been made honestly and conscientiously, and was therefore valid even if Mr Toll were mistaken in his evaluation of the professor.

Professor Ollman told the court

during the four week trial that not only had he suffered loss of earnings, but his career prospects had diminished.

Opposing lawyers countered that he had actually made use of the resulting publicity to further other pursuits such as his board game, a proposed Hollywood movie on his life, and the autobiography he is currently writing, *True Confessions of a Marxist Businessman*.

Professor Ollman also claimed that his case had broad implications for academic freedom, but the American Association of University Professors does not agree.

Mr Irving Spitzberg, general secretary of the AAUP, said that the case was so idiosyncratic - with the involvement of the state government, and the change of university presidents - that American academic freedom was unlikely to be affected one way or the other by the ruling.

However, despite the judicial decision, the University of Maryland is not yet in the clear. It is currently under censure by the AAUP, which is conducting its own independent inquiry into the affair and is concerned to ensure that there is no political interference in the academic evaluation process.

The AAUP has no legal power over any institution (although more than 150 federal courts have cited AAUP rules in their decisions), but it can exert considerable moral pressure.

As Mr Spitzberg says, the AAUP "reflects the norms of the culture of a university, and in an institution committed to ideas, censure is a very serious thing."

The AAUP is less phlegmatic about the university's actions than about the court ruling, and is maintaining that academic freedom at Maryland is under a cloud. Its initial investigating committee has already concluded that Mr Toll's explanation of his decision was inadequate and largely unsupported.

Mr Toll promptly responded by

calling for a new national organization to replace the AAUP as protectors of academic freedom, saying it was clearly inappropriate for them to demand detailed reasons for rejecting an outside candidate.

The AAUP says that the stated appointments procedure at the university does not provide adequate safeguards against arbitrary and improper decisions and that even existing procedures were ignored, with an excessive delay in acting on Professor Ollman's appointment.

The court decision will not automatically influence the AAUP, although it will be reviewed along with all the other evidence in the case. But while the mills of the AAUP grind small, they also grind exceedingly slow; it will be almost a year before the association's annual meeting votes on whether censure should be lifted.

The AAUP stresses that the lifting of censure is the result of talks between itself and the institution involved, although there is a strong implication that the institution must be suitably contrite.

Censure was lifted only last year after a decade from the University of California at Los Angeles, which was censured after firing staff member Angela Davis for her Communist Party activities.

Professor Barrows Dunham who was sacked as chairman of Temple University's philosophy department in 1953 because of his refusal to testify before the House Un-American Activities Committee, has been given a lifetime pension by the university.

Mr Marvin Wachman, president of the university, said the board of trustees had named Professor Dunham, who is now 75, as emeritus professor of philosophy.

Professor Dunham had taught philosophy at Temple for 16 years before he was sacked for exercising his right to remain silent before the committee chaired by Senator Joseph McCarthy.

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## Overseas news

# World Bank loan for China

by Thomas Land

The World Bank has announced its first loan to China to finance a long-term education project intended to relieve persistent shortages of trained manpower in science and technology.

The scheme is to be assisted by a \$100m loan by the World Bank and another \$100m credit from the International Development Association. The investment in education results from an intense debate in China over economic policy, leading to the present general agreement that the long-term growth of the national wealth is to be expected from improvements in the efficiency of resource use.

China has thus set out to erect an education infrastructure to attain that goal.

The project will help to increase the enrolment of science and engineering students at 26 universities from 92,000 to 125,000, introduce graduate degree courses, improve the quality of teaching and research and strengthen the management of institutions of higher learning as well.

As a result, China has eliminated many of the worst aspects of mass poverty. National life expectancy - probably the best single indicator of the extent of real poverty in any country - is 64 years, remarkably high anywhere in the developing world.

Despite these achievements, progress in science and technology has been limited and sporadic, preventing the effective use of the country's physical resources. The government has now embarked on a long-term programme to adjust the structure of the basic economic system in order to place profitable resource management in the very centre of the national development strategy.

Hence the scheme for improving higher education and specialist training in China, appropriately exploring all available local as well as international sources of finance.

The scheme calls for an increase of undergraduate enrolment by seven per cent a year, reaching 2.2 million graduates during the present decade. Graduate programmes would increase their enrolment from nearly zero now to 200,000 by the end of the decade and to produce 100,000 graduates in the 1980s.

The project is expected to cost initially just under \$300m, two-thirds of which are to be raised in convertible currencies by the World Bank and IDA, and the rest by China.



The technological and rural faces of China today.

# Norway looks abroad for engineers' training

from Einar Odden

OSLO A dramatic lack of technicians and engineers has forced a number of Norwegian and multinational companies based in Norway to step up their training and recruiting efforts abroad. By this autumn, a group of some 15 companies hope to have 150 Norwegian engineering students at foreign universities, in addition to the more than 400 who are already abroad.

The members of the group are mainly paying the bill out of their own pockets. Within 10 years, they hope to have educated some 2,000 additional engineers abroad at a cost of nearly \$20m. An advertising campaign in several Norwegian daily papers brought responses from 2,000 Norwegians who were interested in technological studies abroad - and with firm contacts with less than 10 per cent of these, the group would have filled this year's quota.

However, the problems with the scheme have been numerous and serious. By the time the plans materialized, application deadlines in most countries had come and gone, and so the foundation was forced to negotiate directly with individual universities. And now, just before students prepare to go back to school, the foundation finds itself without any concrete contracts with foreign universities, although Chalmers Tekniska Högskola (CTH) in Sweden is willing to accept 50 Norwegian students.

The tendency is continuing and according to head of department of the office of student guidance at the University of Copenhagen, Mr Jakob Lange the reasons are primarily the bad employment situation for the academics and with the fear of debts incurred while studying.

But the Swedish school is charging for its services, and the foundation seems unable to force fees much below the original figure of £1,800 a student per annum. All this represents a complete change in Scandinavia, where, in the past, students have been free to move from one country to another without having to worry about fees. The agreement between the foundation and CTH has therefore caused some concern among Norwegian student organizations.

Meanwhile outside Scandinavia, the foundation has only been able to negotiate successfully with the University of Strathclyde, where it hopes to place 80 students. But it is doubtful whether that many interested and qualified candidates can be found within only a few weeks. Strathclyde, too, is charging high fees, although the final figure is still to be set.

The Association of Norwegian Students Abroad (ANSA), which organizes the affairs of the 6,000 students, has been somewhat sceptical towards the scheme. ANSA feels that the plans have come too late to work successfully this autumn, and has little enthusiasm for the whole idea of buying room for students at universities that charge such high fees. In a document being prepared for the foundation, ANSA produced a cost estimate well below the foundation's more evenly spread by utilizing North American universities.

## Intake halved in five years

The intake of students to further education in Denmark has been cut by half in five years. According to figures from the Danish Statistics Bureau the annual number of young people with a general certificate (studentexamen) or higher preparatory exam (HIF) was 18,500 during 1974 to 1979. But whereas in 1974 34 per cent started on further

education, only 16 per cent enrolled five years later. The tendency is continuing and according to head of department of the office of student guidance at the University of Copenhagen, Mr Jakob Lange the reasons are primarily the bad employment situation for the academics and with the fear of debts incurred while studying.

# Wits plan would double numbers

from Craig Charney

JOHANNESBURG The University of the Witwatersrand, South Africa's largest and most prestigious university, is ready to proceed with an ambitious expansion plan.

The only stumbling block is the financial arrangement to buy the proposed site.

The scheme, outlined last year in the Wits university academic plan, would nearly double the student body at the English-medium university, increasing student numbers from the present 14,500 to 22,000 in the next century.

It involves the purchase of the showgrounds of the Witwatersrand Agricultural Society, situated on the road from the university's present campus in Braamfontein, Johannesburg, to provide space for a new classroom, laboratory, and other facilities which will be required to house the enlarged student body.

The planned expansion would double the size of the 85-acre Wits campus.

Among the facilities called for on the new campus, according to the plan, will be those required for projected massive influx of black students.

Though the university's body is now 90 per cent white, the academic plan projects that the majority of the students will be black by the year 2000.

The Johannesburg City Council has recently given its approval for the transfer of the showgrounds to Wits as soon as the Agricultural Society is ready to vacate it.

While Wits and the society have not yet agreed on the exact amount of compensation the society will receive to replace its buildings and facilities, both sides say that a compromise is in sight.

# Can Fine Gael keep its word?

Dr Fitzgerald's new government is sympathetic to the needs of the Irish universities. But, as John Walshe writes from Dublin, expediency may force delays in the implementation of its policies.

Many university administrators and academics breathed a sigh of relief over the recent change of government in the Republic.

Here, at last, they argued, was a Cabinet fully aware of the role of the universities in the economic, cultural and social life of the nation. Dr Garret Fitzgerald, its leader and the economist, had lectured in the largest institution in the country - University College, Dublin, (UCD) with its 10,000 full-time students.

Professor James Doocey, the new foreign minister designate, had proved an able spokesman for the universities when they were desperately seeking more financial aid earlier this year; other ministers were equally sympathetic.

This, the perceived wisdom went, was in contrast to the attitude of the previous administration under Mr Charles Haughey - one hardly enamoured of the universities and which countenanced ministerial attacks on the "overproduction" of arts and liberal profession graduates.

Even private meetings with ministers had not shaken them of the belief that the universities were not playing their "proper role" in the economic development of the country.

More to the point, Fianna Fail had left the same universities so short of hard cash that Mr Joseph MacHale, secretary/bursar of UCD, warned that doomsday was not far away.

Mr Boland, the new education minister, has eased the plight of the universities. A supplementary grant will wipe out most of the threatened IR£9m (£7.2m) deficit this year. Mr Boland has also asked for details of university plans and, in his few public utterances on higher education since coming to office, Mr Boland has reiterated the government's commitment to the further development of the technological sector. It saw this as a significant part of an overall strategy for the growth and expansion of job opportunity and industrial development.

One avenue towards greater equality of educational opportunity about which the minister is enthusiastic is the provision of a comprehensive education policy. It was superior in many respects to the then government's White Paper on educational development and to Labour's proposals. It was also very expansionist and not always overmindful of costs for implementing promised reforms.

Mr Boland, the new minister, had, however, nothing to do with its preparation - his receiving the education portfolio was one of the surprises of the new Cabinet.

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Dr Fitzgerald: economist



Mr Boland: new minister

The Open University-type unit due to start its courses in the autumn of next year. The Distance Learning Unit at the National Institute for Higher Education in Dublin will be run in conjunction with the national radio and television station. A director is due to be appointed shortly.

Mr Boland has said that the potential for the nation arising out of this initiative was considerable; it held out the prospect to people throughout the country of acquiring educational qualifications whatever their geographical, personal or socio-economic circumstances.

The minister has also committed himself to the provision of four extra regional technical colleges in the greater Dublin area - urged in report last year - and to the expansion of the National Institutes for Higher Education in Dublin and Limerick. These institutes have a particular technological orientation in many of their courses.

All political parties are committed to dissolving the National University of Ireland and giving independent university status to its constituent colleges at Dublin, Galway and Cork. Fine Gael further proposes to give independent status to St Patrick's College, Maynooth - one of six recognized colleges of the National University. Maynooth also serves as the national seminary for the training of priests.

Fine Gael supports the idea of a statutory conference of Irish Universities and promises to include provision for such a body in university legislation. A statutory Conference of Technological Education would deal with the non-university sector.

These statutory conferences would together constitute the major membership of the reformed statutory

Higher Education Authority. The Authority would have overall responsibility for the planning, coordinating and financing of the university and non-university sectors.

Fine Gael has promised that every young person who is qualified to do so would have the opportunity of gaining a higher level qualification in accordance with his or her capability and aptitude.

At present, there are in the region of 38,800 full-time students in third level colleges. Two thirds are in the universities, about 3,000 in various teacher training institutions, and the bulk of the remainder are in technical and technological colleges which have undergone rapid expansion in recent years.

Cutbacks including savings in education were also ordered in the budget, and fees for third level colleges have gone up by 30 per cent, and in some cases, even more. Fianna Fail was too extravagant with its promises in opposition, and that Thatcher-style monetarism is raising its dreaded head in the more open Irish economy.

Dr Fitzgerald was elected leader of Fine Gael after the last general election defeat in 1977. With his coterie of sharp, hard-working lieutenants, he transformed Fine Gael from being a part-time political party into a highly efficient and successful team.

His recent general election campaign song, heard in smart city streets and quiet rural backwaters, went: "Fine Gael, Fine Gael, a bright new future we hail". Young Ireland, which helped elect him premier, will be watching and waiting for his promised land.

ment will go ahead and cut funding if a university decides to oppose an official request for separation in the dormitories.

But easily the most controversial parts of the coalition agreement are those relating to the vastly expanded possibilities of exemption for Yeshiva students and teachers from service in the IDF. Until now, all women declaring themselves of religious persuasion have been automatically exempted from IDF service. And most ultra-orthodox males who have sought such exemptions - or at least repeated postponements of doing the initial conscript stint or later reserve duty - have managed to avoid service.

Now, in accordance with an unsigned but written agreement between Sharon and the Aguda of Talmudic subtlety and vagueness, virtually all ultra-orthodox males connected with Yeshivas, as full-time or part-time students or teachers will be exempted from the service.

Naturally, this is resented by most Israelis, who do three years of regular army service as conscripts and then 30 days a year in the reserves until the age of 50 or 55 whether or not they study or teach. Many in the coalition, with the ex-general Sharon, whose reputation for aggressiveness and militancy is celebrated, in the lead, have found this concession to the religious coalition partners the bitterest of the government-forming pills.

The new government's commitment to close down coeducational colleges, however, may prove more difficult to implement. Until now, male and female students have lived, at least officially, in separate rooms though not in separate wings or floors of dormitory buildings. The Aguda, whose attitude to sex is highly puritanical, wants at least separate flooring, if not separate buildings for men and women. But the government's jurisdiction over what is an internal university affair at each institution is extremely limited, if not non-existent, and university spokesmen do not believe that this govern-

ment will go ahead and cut funding if a university decides to oppose an official request for separation in the dormitories.

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Naturally, this is resented by most Israelis, who do three years of regular army service as conscripts and then 30 days a year in the reserves until the age of 50 or 55 whether or not they study or teach. Many in the coalition, with the ex-general Sharon, whose reputation for aggressiveness and militancy is celebrated, in the lead, have found this concession to the religious coalition partners the bitterest of the government-forming pills.

# 'Sellout' concessions forced on Begin

The Israeli premier has had to compromise on coeducation and funding after pressure from his ultra-orthodox coalition partners. Benny Morris reports from Jerusalem.

In forming his new government, presented to the Knesset and the country on August 5, Prime Minister Menachem Begin has made some substantial concessions in the field of higher education to the Agudat Yisrael Party, his ultra-orthodox coalition partner.

A commitment to end coeducational university dormitories and considerably increased funding for the Yeshivas of Torah, Talmud and rabbinical seminaries are among the main features of the coalition agreement signed by Begin's Likud block and his three religious coalition partners, the National Religious Party, Agudat Yisrael, and the Oriental Jewish (Sephardi) Tami List.

In the coalition agreement, regarded by most Israelis - who are non-religious and non-observant - as a betrayal of basic principles by some of the Likud leaders solely in order to maintain power, the new government is committed to funding Yeshiva students on a scale equal to the funding by the state of the country's 60,000 university students.

While no figure is cited in the coalition agreement, the Aguda is demanding from the treasury for the Yeshivas on a per capita student basis either 65 per cent or 40 per cent of what they believe the state is investing in each university humanities student. The Yeshivas are not supervised by the state, and will remain so.

No reliable figures are available for the number of Yeshiva students aged 18 and over, but it is believed to run into the tens of thousands and may be as high as 50,000, with the major concentrations in the Yeshivas of Jerusalem and Bnei Brak, near Tel Aviv. While the ultra-orthodox constitute only some 5-10 per cent of Israel's population, a large proportion of them attend Yeshivas from the age of 14 until the ages of 30 or 40, believing that the study of the Torah and Talmud is sanctified and far more worthy a pursuit than earning one's livelihood in a job.

Yeshivas are a way of life. The Yeshiva students and their families live off private contributions from wealthy co-religionists in the United States or Israel - for whom the giving is a mitzva or good deed - and off subsidies from the state.

A fortnight ago, the treasury officially applied to the Council for Higher Education, which supervises and controls the budgets of Israel's universities, asking for a calculation of how much the government spends on each humanities student per year.

While the council readily replied that they, the treasury, provide some US \$37m (£193m) a year towards the upkeep of the universities, it was unwilling to give a figure per student, saying that any such calculation would be absurd, as university budgets could not be properly calculated in such a fashion, what with

the varying costs of different research projects, lecturers' salaries, and so on.

The treasury needed the figure in order to know how much extra funding the Aguda was requesting in its demand for 65 or 40 per cent of what goes into university students for their Yeshiva studies.

The treasury, after also being turned down by the education ministry, decided in the end to calculate it by looking at Hala University, essentially a humanities and social sciences institution. With a US \$10m subsidy from the government each year, and with 6,000 students, the cost to the state of each student was calculated by the treasury as standing at close to \$20,000 (£870) per year.

The new government has not made clear whether it expects to find this extra aid to the Yeshivas will cost. But in the coalition talks, the Aguda - joined in this matter by the NRP - demanded not only extra funding but some sort of parastatutory status and respectability for its Yeshivas. Indeed, a group of Aguda leaders recently appeared at the offices of the Council for Higher Education and asked for detailed, lengthy explanations of how the council operated.

Apparently, the heads of Israel's religious education establishment are seeking to set up a religious council for higher education. As a first step

in this process, the Council of Sages - the spiritual supervisors of the Agudat - have already designated one of Jerusalem's larger Yeshivas, Merkaz Harav, as "a national Yeshiva".

Another step by the ultra-orthodox and the orthodox universities is to be seen in the agreement by the Aguda with Mr Ariel Sharon, the new defence minister, that henceforward Israel Defence Forces officers who seek a year or more off from their military duties to study may now receive the same rights if they go to a Yeshiva as if they go to the practice until now - to a university in Israel or abroad. (Almost all IDF officers above the rank of major or lieutenant-colonel go off some time in their careers for two or three years to do a BA or MA at a university.)

The new government's commitment to close down coeducational colleges, however, may prove more difficult to implement. Until now, male and female students have lived, at least officially, in separate rooms though not in separate wings or floors of dormitory buildings. The Aguda, whose attitude to sex is highly puritanical, wants at least separate flooring, if not separate buildings for men and women. But the government's jurisdiction over what is an internal university affair at each institution is extremely limited, if not non-existent, and university spokesmen do not believe that this govern-



No one, certainly not the Commons education select committee, is now any more clear as to what criteria the University Grants Committee used to make its cuts.

Those who thought that all would be revealed when the evidence of the appearance by the UGC at the Commons was made public, are to be disappointed. (Though some are even more disappointed, as there are so few copies of the evidence available.)

Holding the session in private did not elicit any startling information, except to show that Mr Christopher Price, chairman, is not as keen on open Government as he always says he is.

The MPs' questioning was not very precise and Dr Parkes' answers said in very precise language, not very much. The objective criteria, he said, would include information on the likely numbers of young people coming from schools, with particular qualifications.

The UGC would also look at staffing capacity and age structure, types of courses and their attraction. One of their concerns was to rein in the swing back towards science.

So were A levels used as a criterion? Well, yes and no, he succeeded in saying. Yes, they were a measure of the attractiveness of courses to students, which the UGC was interested in.

But they could not be used as raw data. He took on board the view that an institution which took people with not particularly good A levels and then did a first rate teaching job on them, was just as worthy as one which took on academic "high-flyers".

"The problem," he said, "is in the balance, how much for the different groups one can afford."

There was similarly some ambiguity in Dr Parkes' response to a question as to whether the over-riding criterion was quality. Patrick Cormack MP asked, "... do I infer that your ultimate over-riding criterion in general terms was quality and that you have cut where quality is deficient and maintained where it is not, or have you actually had to cut in places where there is an excellence you would like to see remain?"

To which Dr Parkes replied: "We have certainly had to cut in areas where there is a degree of excellence we would have liked to see remain."

The jobs crunch comes next year - according both to local government leaders and senior trade union officials who believe that whatever the savings of the past two years compulsory redundancies among polytechnic and college lecturers are now inevitable.

At a conservative estimate some 1,000 lecturers in either further or higher education are already leaving the service as a direct consequence of a squeeze on local authority budgets which shows no sign of easing.

Employers and union officials fear that the pool of surplus labour that can be mopped up solely by premature retirement compensation, the continued use of the Croucher compensation designed to aid the run down of teacher education, and other voluntary means has been virtually drained.

But the "worst possible case" figures put the Ministers this month imply a much faster rate of job losses - some 3,800 a year by 1983-84. The burden of local government leaders' argument to the Government was clear: natural wastage and voluntary redundancy are not enough.

The targets set a fall from 55,600 to 50,800 non-advanced further education lecturers; and a more rapid decline from 27,800 to 22,500 in higher education.

Staffing inevitably comes under the microscope because salary bills make up as much as 70 per cent of an institution's budget. Savings cannot be made solely on maintenance, consumable spending and not filling vacancies indefinitely, and once all the volunteers have stepped forward, other methods have to be found while the squeeze continues.

If the size of the contraction of the revenue to the local authorities is going to be of the order suggested, there could be redundancies on a colossal scale," assistant secretary, salaries, for the National Association of Teachers in Further and Higher Education, Mr Jim Munnelly, said.

## The very private thinking of Dr. Parkes and company



Edward Parkes, Patrick Cormack, Mark Carlisle and Lord Flowers

Ngao Crequer pinpoints some of the questions that remain unanswered in the wake of the University Grants Committee's fateful announcement last month.

but your first statement is true in very general terms, except that you must not take a very simple view of quality."

Later he said that having looked at subject provision throughout the whole system, they looked at the institutions to see, as he put it, what kind of monsters they had created.

But he said there was no value judgment made of the institutions, and he wanted to make this particularly clear to those institutions which suffered the most severe cuts.

No doubt Salford, Aston and Bradford, will welcome this reassurance although to be told you must lose 1,000 students at a stroke (and your neighbour say should only lose 20), and then hear that no value judgment is being made is grim news. Whether sixth-formers decide a value judgment has been made remains to be seen.

On other questions the MPs were unable to get much more enlightenment. Before the UGC cuts were announced in detail, Dr Parkes had told universities that one of the things they would look at was the effectiveness of teaching.

When MPs asked how good teaching was measured, they were told: "... this necessarily (apart

from the obvious numerical data, but by a lot of interpretation) is an area that contains a high degree of subjectivity."

The UGC was at least able to dispel a few myths, and indeed allegations. No, they had not ignored research grants made by organizations other than research councils, nor had they taken into account, except in rare cases, regional criteria.

There was the employability of graduates a useful criterion, except for showing trends among employers. Dr Parkes said that as a measure of the products of universities, it said nothing not known from other sources.

During the evidence given earlier by the Committee of Vice-Chancellors and Principals, Lord Flowers, rector of Imperial College, made the most pertinent point about the need to know which criteria had been used.

He said that essential judgments, because they were about quality were to some extent bound to be arbitrary: different people would do different things.

After UGC decisions had been made, the universities were free, within the given financial guidelines,

to exert their own value judgments, which might be different from the UGC's. "That is why it is so important ... that the criteria which the UGC uses should be known, partly so that we can move towards them and partly so that we can disagree with them if we want to."

The most remarkable thing about the vice-chancellors' private session with the committee is that they seemed to commit themselves to drawing up for the MPs their own criteria for distributing the cuts. It would be highly unlikely if they were to agree on that one.

Perhaps the most revealing part of the UGC evidence concerned its attitude to home student target numbers. Dr Parkes said the universities were not required to keep the targets which were "information which they find extremely valuable in knowing what numbers we use in making grant calculations and, therefore, they can see where we were aiming."

To the key question of what would happen if a university chose to recruit students on the basis that it is better having the fee for them, in addition to the grant, Dr Parkes said: "We would only react against it in the sense of work the university thought it was doing. If the disparity

became so great in particular areas that we thought they were giving a very bad deal to their students we would then want to argue the point with them." "Yes," said Dr Parkes.

This could easily be a straw that breaks the camel's back. Take on more students, do not make as redundant they will argue, particularly in those institutions asked for huge cuts in student numbers.

But this will be watched very carefully by the Treasury for one. More students means more money grants. Not does this quite square with the UGC's keenness in the past financially to punish universities which have taken on more students than allocated for.

The crunch question now is to what extent the Government will provide for the redundancies that are inevitable if the cuts are implemented at the speed proposed.

There may be none or few redundancies in the first year but then they will quickly accelerate. The courts will be busy for at least two years, the compensation bill will arrive, as much as £250 million is the estimate, and then someone will have to pay. The universities will not have the money. If they are not to be made bankrupt, the Government will have to provide the funds, in the third year.

Dr Parkes told MPs that he thought the UGC had probably convinced the Secretary of State and his officials that it was not possible to find the money from within existing funds. He thought he had convinced them because they were now arguing "arithmetically".

This point will be high on the agenda when the select committee questions Mr Carlisle again after the summer recess. They were alarmed at the situation the Department of Education and Science has now got itself into.

The UGC told the committee that it had informed Mr Carlisle in 1979 of the kind of damage that would be done to the system if the grant reductions were made, and at such a pace.

"They will want to know what extra money will be forthcoming to prevent the system collapsing. And he will ask whether this could be cost-effective, even in the short term."

vacant posts - the two methods now used over the past two years.

The effects are arbitrary - some new staff might have to be recruited to fill essential posts albeit perhaps at a lower salary, and the CDP suggests that the process of planning down staffs should be governed by a review of the work of the institution.

Natfhe officials resist suggestions by the local authority employers that they are dragging their feet over getting the talks on a replacement scheme going. Rejecting a claim that the unions were waiting to see what the employers' court said, they emphasize however that they will be discussing only arrangements to replace the existing interim agreement, and that something much more elaborate will be needed if the threatened major run-down occurs.

"Our concern is that redundancies are called redundancies," Mr David Weitzel, said. "The essence is that a person is not replaced and redundancy in the system it is a redundancy."

The aim of their basic strategy will be to try to make the employees look elsewhere for savings, and to ensure that staff faced with compulsory redundancy have not only one year's notice but a further year's security on full pay for retraining.

Above all they want to regain control over the way staff leave the service. Allegations that employees were approaching individuals to offer PRC were made at Natfhe's conference, which stated its insistence that the result must be no reduction in establishment.

On the ground, Natfhe officials had been negotiating such schemes around the country in the full knowledge that at least a short-term reduction was the desired objective of the employers' offer. Their concern has been to get the best possible deal for individuals, but it is not enough to satisfy those union members who see the operation as "selling jobs."

The Committee of Directors of Polytechnics has already pointed to the problems for institutions raised by the almost random effects of voluntary redundancy and not filling

who have not got protection of this order, and that the time lag it builds in makes rapid budgetary contraction next to impossible.

Talks on a replacement deal when such issues will be thrashed out are not expected to open before the early autumn. But management officials see little prospect of rapid developments.

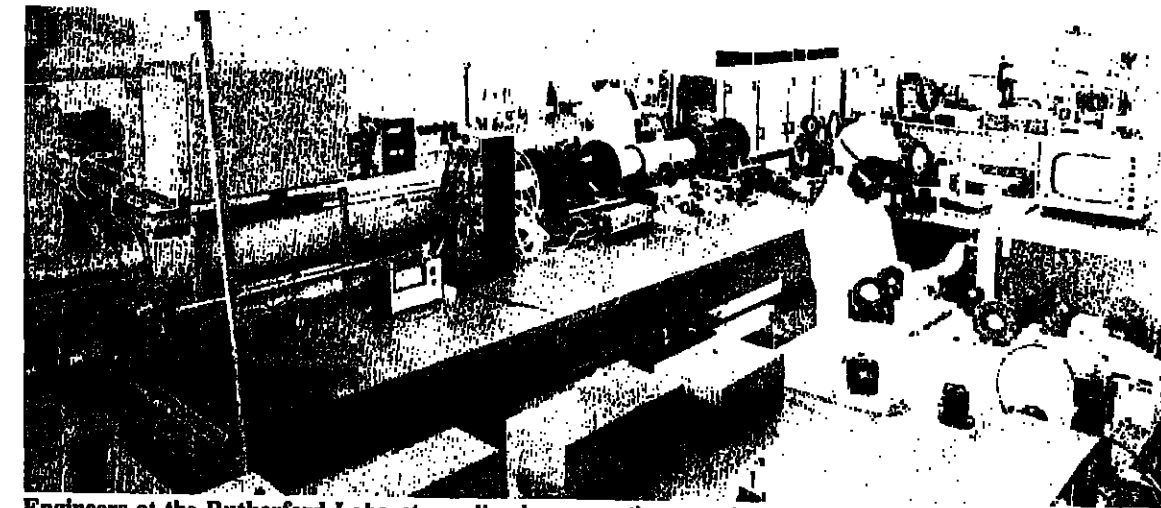
"The decline in teacher numbers is not as fast as the Government wants but it is not far off target," one said. "The pressure is not yet there to go for compulsory redundancies and not until that pressure arises will both sides focus sharply on whether a new scheme is needed."

First signs that that pressure was building up came with last week's stormy meeting between Environment Minister Mr Tom King and local government leaders.

Papers prepared for the meeting made clear that if the Government maintained its heavy hand on local authority budgets voluntary methods of reducing staff would not be enough. Even those figures were based on a predicted inflation rate some two per cent lower than it now is, and a faster pace than the 19 per cent reduction for advanced further education by 1984 would presumably be needed.

## What future for fusion power?

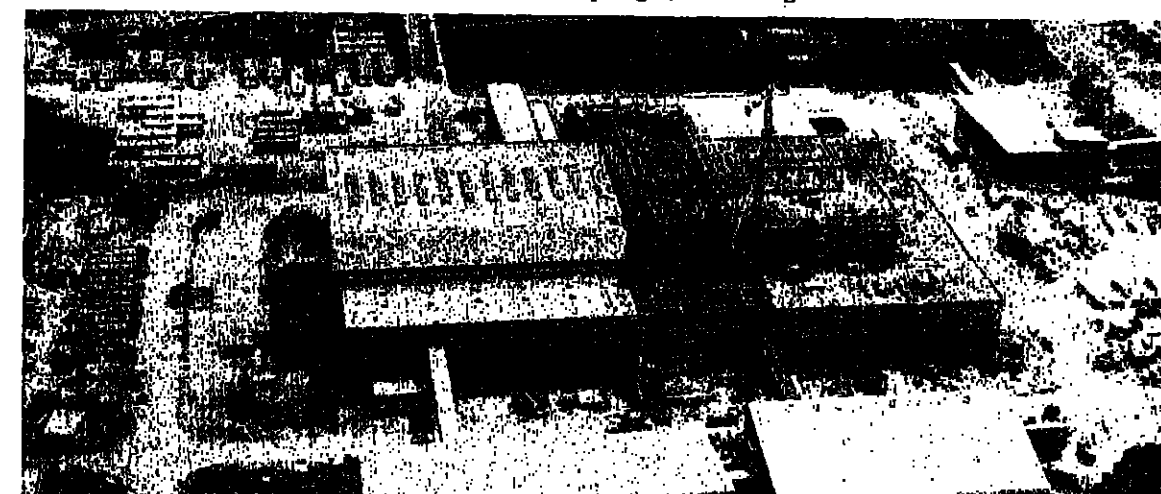
As the world confronts severe energy shortages, the potential of fusion power is being intensively researched. But the processes it involves are costly and complex, while different technical approaches compete for funds. Robin McKie reports.



Engineers at the Rutherford Laboratory align beams on the centre's massive laser facility.



The laser's containment chamber (left) and a close-up (right) of the target area.



The European Jet project at Culham - the fusion reactor of tomorrow?

helix-shaped magnetic field which has proved the most reliable yet designed. The current used to generate the first magnetic field component, through the ring, also serves to heat the plasma.

And although the deuterium-tritium plasma is being heated to temperatures of 100 million degrees, there is no danger that in the event of an accident, vast amounts of super-hot plasma would be released to melt half the British countryside. In fact, there is very little plasma and at very low pressure within the reactor vessel, so the problem of the escape of vast quantities of ultra-hot gas does not arise.

It is a Tokamak reactor that is to be the basis of the Jet (Joint European Torus) project now being constructed at Culham. Although it will cost more than £300m to construct, the device is in fact designated as a temporary project and will have only a five to seven-year operating period. Nor will it be capable of generating any electricity, but will merely demonstrate the ability of fusion reactors to produce more power than their massive magnets soak up.

Jet will use only standard magnets to generate the powerful containment fields - but the prototype fusion generators of the 1990s will require super-conducting magnets, which require less electricity because they operate at very low temperatures, to be economically viable.

Once fusion has been created

within the reactor vessel, the neutrons produced will be absorbed by a blanket of material, including some lithium which, under the neutron bombardment, will generate more tritium for other reactors. The blanket will be heated under the hail of neutrons and this energy will be used to raise steam to drive turbines, thus producing electricity in the conventional manner.

Yet this goal remains a decidedly distant one. The Jet project - which will be the largest fusion device built - will not start operating until 1983 and is expected to have completed its useful work by the end of the decade. Its role will have been to allow scientists to learn the delicate art of correctly handling the plasma within it and find the correct parameters - such as plasma cloud shape and physical state - for producing the maximum neutron flux.

Ultimately the huge 15 metre diameter machine can expect to become a museum curiosity, of interest to future science historians anxious to plot the course of fusion power development. And after it will come a device capable of sustaining the fusion processes demonstrated by Jet, but which will tackle the massive engineering problems to be overcome in transforming the fusion reactions into electricity.

Plans for such a machine, provisionally called Inor, or International Tokamak, are now being drawn up by the International Atomic Energy Authority. America is also considering a similar device in its struggle to reach commercial fusion - although it is certain that work would not begin on these machines until the 1990s.

After that, the first full-scale demonstration reactor could be started at the beginning of the next century, and if it is successful, we could see the start of large-scale commercial fusion power by the 2020s.

"The most significant point about fusion research is the huge lead times involved in its development," pointed out Dr Barry Green, a scientist working on Jet. "It will be over a decade in taking Jet from its initial agreement stage to full operation, and that is very likely to be the same for future devices."

But Tokamak is not the only ace up the sleeves of fusion researchers. Apart from other, rather similar magnetic confinement machines - known as toroidal pinch and stellarator devices - there is a completely separate approach being taken: inertial confinement. This is at a far more primitive stage than magnetic confinement projects but could, in the very long term, overcome some of the basic problems that afflict Tokamak and similar machines.

"In the race to reach fusion power, Tokamak is clearly leading the field at the halfway stage. However, you cannot say with any certainty who will be the winner at the end of the day," said Mr John Maple, of

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Culham laboratory. However, it is to prove the eventual winner, inertial confinement fusion has a great deal of ground to catch up in this country, research into its application is still at a fundamental stage. Much of the United Kingdom work is carried out at the Science and Engineering Research Council's Rutherford Laboratory, where teams of university plasma physics researchers are carrying out basic research programmes.

A principal tool in this armoury is the laboratory's massive neodymium-glass laser, in which six separate beams are focused on to targets within a confinement chamber. Tiny glass pellets containing a deuterium-tritium mixture are placed within the chamber and blasted with laser light.

The lasers cause the glass shell to shatter and explode outwards at colossal velocities. (The highest rate so far measured has been 250 kilometres a second, which the Rutherford scientists are claiming as a new world land speed record.)

The result of the rapid expansion of the shell is an equal and opposite reaction forcing the deuterium-tritium mixture inward, compressing it and igniting thermonuclear reactions. There is then a further explosion and energy is radiated out, which could be collected by blankets of material surrounding any future reactor vessel.

But it is not only lasers that can be used to set up inertial confinement fusion. Scientists are also studying the possibility of using particle beams of electrons, protons or heavy ions. Each different type of beam has its own advantages and disadvantages - although all have one clear benefit when compared with magnetic confinement.

By using beams from a distant source, the problem of radioactive contamination and its associated engineering difficulties can be overcome with inertial confinement. In the latter method, the reactor vessel can be isolated from the rest of the system, and this considerably eases problems of access, maintenance and wall replacement.

But using beams or lasers also has drawbacks. For one thing, the whole physics of the operation is still not properly understood and even when this is achieved, the cost of building large enough lasers, sufficiently finely focused ion beams, or manufacturing at acceptable cost the deuterium-tritium pellets, could rule out inertial confinement as a future source of fusion power.

Just what, if any, type of fusion reactor the world will eventually find itself with depends mostly on political considerations. Long before it is decided to build commercially viable fusion reactors, the developed countries of the world are going to have to make a decision on whether or not to go ahead and build large numbers of breeder reactors, which create more nuclear fission fuel than they consume.

If the world decided it wishes to do this, then in the next few decades we could find ourselves in a plutonium economy that generates its own fuel, thus eradicating the need for fusion energy.

But there are obvious problems about safety margins and possible pollution that may force a decision against fast reactors. Wave and solar energy will certainly not fill the gap between the world's energy requirements and its ability to provide power, while natural sources such as oil and coal are in finite supply and can have unfortunate ecological side effects, such as atmospheric heating.

As a result, it would not be unreasonable to suspect that fusion power will have some place in our future society, although what form or to what extent remains largely a matter for conjecture.

Which one wins the race clearly depends on how much funding it can attract. Given that magnetic confinement has attracted so much development cash already, there is a danger that new, and perhaps much better, fusion research fields could be squeezed out. Whether or not this happens, relates simply to the amount of cash available for centres to carry out the most basic of research programmes - and that is very much an unknown variable.



## A surprise package

Mr Carlisle's Green Paper on public sector higher education must rank as one of the most intractable discussion documents ever published by a Government department.

Its proposal to transfer 90 polytechnics and colleges from local to central government will have far-reaching consequences not only for the migrating colleges but for local government and higher education as a whole.

For local government, loss of a sector spending about £400m a year would be the biggest single blow since the health service was "nationalized" in 1972. And in higher education the end of local control would result in a massive realignment of powers and institutions, raising profound questions of identity for the universities as well as the polytechnics.

Yet the 14-page Green Paper published by the Department of Education and Science a fortnight ago says little about the Government's wider policy for higher education or about the detailed working of the proposed new arrangements.

The alternative "models" for re-organizing public sector colleges are outlined in a couple of paragraphs each. Details of the favoured model will not be fleshed out until the consultation period ends after November and a White Paper can be published.

The wider question of a higher education policy is even more conspicuous by its absence. The Green Paper makes passing reference to the role of the public sector as a provider of vocational courses and that of the universities as a source of new knowledge. Otherwise nothing is offered to replace the Croslandian binary policy which the Green Paper is likely to end.

The DES presumably saw little point in clouding the debate with detail. That would have worked against the department's interest. With most polytechnic directors eager to embrace the Government's own policy of nationalization, it would have been tactically incautious to blur the stark choice between central and local government control which is offered in the consultative document.

But the absence of any wider policy discussion is more curious. The binary policy instituted by Mr Anthony Crosland in 1965 started by formulating an educational aim and then selecting a method of achieving it. The aim was to provide an accessible, innovative and vocational alternative to the universities. The method: to entrust polytechnics to local authorities on the assumption that they would be more responsive to local and regional needs.

Mr Carlisle's Green Paper reverses the process and omits half of it. It offers a method for running the public sector of higher education but not an aim. And by saying nothing about the details of the method, it makes it difficult for those outside the DES to predict its consequences.

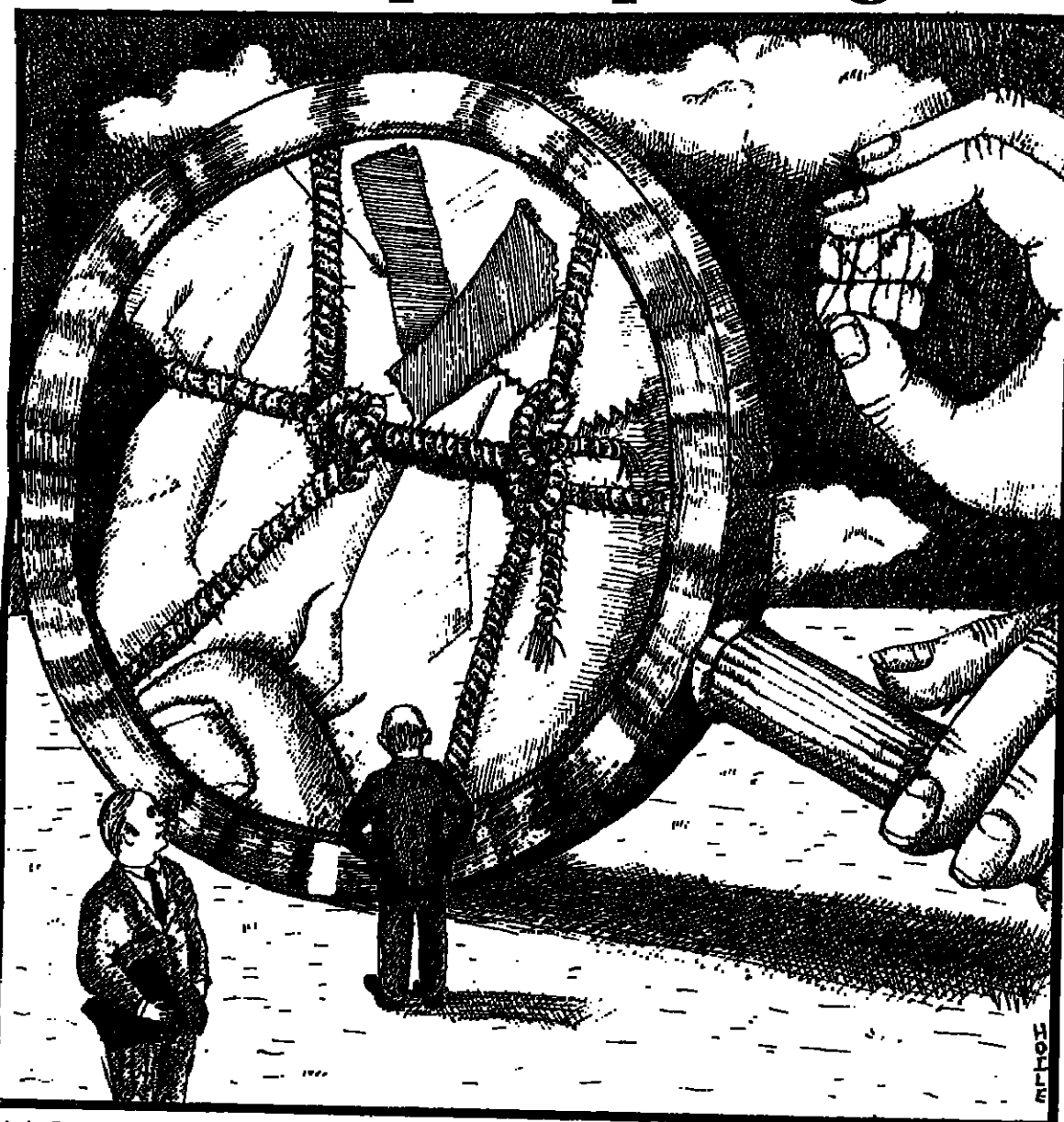
As a result, the period of consultation launched by the Green Paper is going to be an odd one. "The institutions are being invited to buy a pig in a poke," one local authority official complained last week. "The sad thing is, they will probably accept it."

Some of the established interest groups have indeed been quick to choose between the two models in the Green Paper. With few exceptions the polytechnic directors have scrambled to embrace Model B, seeing in nationalization a coming of age for their institutions and liberation from suffocating municipal tutelage. The local education authorities, equally inevitably, have condemned Model B as a Whitehall snatch for power.

But the agonists face a difficult choice. Implementation of either model, particularly the DES proposal for central government control, will have far-reaching implications for higher education. In the absence of details and a clear statement of Government policy, those implications can only be guessed at.

One of the most important implications of nationalization is reasonably clear, however. Creation of a national body on similar lines to the University Grants Committee will give central government a far stronger role in financial and academic planning.

The DES is at last convinced — despite what it said in its more opti-



mistic Brown Paper discussion document in 1978 — that the higher education system will be forced to contract over the next decade as a result of the shrinking number of school-leavers.

It believes that its responsibility in these circumstances is to supervise the contraction so that the smaller system which is left has a coherent shape and has not been subject to "haphazard" cuts. But it has been clear for a long time that the department's ability to steer such contraction is fatally flawed by the binary division.

The DES has already invested considerable effort in attempts to achieve some better articulation of the two arms of the system. Last year, for example, internal reorganization at the department brought together under a single under secretary for the first time since the universities became a DES responsibility in the early 1960s.

More recently, the department persuaded the Council of Local Education Authorities and the University Grants Committee to set up a number of "transitory" committees to examine key areas of mutual concern.

But these committees have not been able to make very significant progress for two reasons. First, on a simply technical level, the mechanisms through which the two sectors are administered and financed are fundamentally incompatible. Second, the political rivalry between the two sectors has resulted in each side trying to prove that it is more efficient and cost-effective than the other.

If Model B is implemented, the UGC and the national body for the public sector will be doing similar jobs, and the mechanisms which they use will become readily comparable. The Government has already indicated its intention to bring the two bodies into a close relationship. Mr Richard Bird, the DES deputy secretary, said when the Green Paper was published that they could be merged under a single umbrella committee or through some other collaborative machinery.

It seems inevitable that this new configuration of powers will increase the authority of the Government and diminish the independence of the universities. The national body, for

**In the second of two articles on the recent Green Paper, Peter David predicts that it could have as much impact on the universities as the polytechnics**

the public sector is not envisaged by the Green Paper as enjoying the same degree of autonomy as the UGC. Its role is "to express the Government's broad educational aims". It will, nevertheless, provide the Government with a benchmark against which the financial and educational decisions of the UGC can be more closely monitored.

Similarly, the existence of a brace of national bodies, linked or merged and reporting directly to central government, will enable the DES to initiate the kind of regional "rationalization" which is politically and administratively impossible under the existing dispersed arrangements.

London is a topical example. It contains three universities (London, City, Brunel); five inner London polytechnics, two in outer London and a score of colleges offering higher education. Both the University of London and the ILEA have recently launched ambitious internal reorganizations. But the two exercises have not been linked and they have not embraced the outer London boroughs and the other polytechnics and universities.

After implementation of Model B, wholesale rationalization within regions would become a much more practical proposition. The UGC and its polytechnic counterpart could establish a joint London committee which could instantly lay its hands on the financial and academic information it needed. More importantly, it could introduce a scheme of rationalization immediately, without facing opposition from obstructive local authorities.

The implications need not end there, however. The co-existence of a UGC and PGC, both funded and appointed by the DES and standing in a similar relationship to the Government and the institutions, is likely to lead to other convergences between the university and the public sector.

Traffic between the sectors could

become a real possibility. Some of the former colleges of advanced technology, which appear to be losing favour with a newly dirigiste UGC, could be told to seek all or part of their funding from the public sector. A few polytechnics might apply for university status.

Nor is it too fanciful to conceive of Model B leading to a fundamental change in the system of academic validation, with the polytechnics demanding, in the interests of fair competition, that universities be subjected to the same rigorous inspection as applied to the public sector through the Council for National Academic Awards.

A year ago any suggestion that the universities needed a CNA-style system would have been met with derision. But the controversial funding decisions made by the UGC a month ago — and likely to be repeated in the years ahead — have led to some university voices asking for a more public and systematic method of assessing academic quality than that enshrined in the UGC's existing system of silent cabals.

Nationalization of the public sector is therefore likely to have nearly as revolutionary an impact on the universities as on the polytechnics and colleges transferred from local government. According to the Green Paper, receipt of public funds, either direct or through local authorities, requires a measure of responsiveness to public expectations. "Involvement and guidance from a central point is unavoidable", it says.

For the universities, the UGC already provides a central point. But creation of a UGC equivalent for the public sector is bound to create another centre from which both committees can be guided in their turn. That centre will be the DES, greatly strengthened by the disappearance of the local education authorities and occupying a commanding position at the pinnacle of the two sectors.

Some of the polytechnic directors who support "nationalization" regard the prospect of a more centralized higher education system with equanimity. They argue that the cuts in higher education spending have already been imposed on the DES by the Government and that a stronger DES will at least be able to administer the cuts fairly. The national body promised in the

Green Paper will not, however, arrive on the scene in time to do anything about the current programme of spending cuts. Even the most optimistic timetable prepared by the DES does not envisage legislation before the end of 1983. A national body could hardly be expected to do anything before the 1984 financial year — by which time the cycle of cuts announced in the last White Paper will have been implemented.

What implementation of Model B would do is ensure that the rapid contraction of expenditure planned up to 1984 would be implemented by local authorities which had lost their future stake in the polytechnics and could not be expected to care a great deal about the health of the institutions.

The financial uncertainties raised by the Green Paper are, however, easier to define than the educational ones. Both models would produce a system under which the total volume of expenditure could be tightly controlled. Model B would seal the colleges hermetically. Model A would, in theory, allow rogue authorities to top up their colleges' spending.

In practice, even under Model A spending could be controlled. Authorities which added to their colleges' incomes would have to do so through rateborne expenditure — could simply be penalized by a national body in subsequent years. The real distinction between the two models lies in their ability to influence the function, not the cost, of the public sector.

Model A would produce a national body on which local government interests predominated and the existing pooling system remained basically intact. For three reasons, a body of this kind would be unlikely to adopt a narrow or specific definition of public sector higher education.

First, the Model A body would work through a consensus of some 90 local education authorities with competing views about the role of their colleges. Second, the pooling system is a reactive method of budgeting rather than a prescriptive one, and would leave most educational initiative in the hands of the colleges. Finally, a local government body would not have the intellectual or political confidence to impose a single educational mission on colleges under its control.

Even more importantly, Model A would retain the polytechnics as major colleges within the "seamless robe" of more than 300 colleges offering work at a variety of levels. Model B would cream off the 90 polytechnics and biggest colleges, thus breaking the institutional link between higher and further education.

All these features of Model A — conservatism, its diffusion of control, its large and ambiguous educational spectrum — can be counted as advantages or disadvantages depending on your point of view.

The Green Paper rightly points out that compared with a central government solution, Model A would result in weaker national planning in which the priorities of the national body could be "distorted" by individual local education authorities.

Yet the Oakes Report in 1976 believed there was actually much to be gained by such "distortions". It liberally recommended that local education authorities should bear direct financial responsibility for a proportion of their polytechnic funding, both as an incentive to efficient management and to encourage local responsiveness and initiative.

So the real distinction between the two models is that one would make it possible to develop a single coherent function for higher education outside the universities; the other would apply a little more leverage to a catholic and muddled coalition of institutions.

Given the Government's silence about its educational objectives for the polytechnics and the other nationalized colleges, the choice boils down to a question of faith in the wisdom of central government.

True believers will be tempted to surrender more power to the Department of Education and Science in the hope that a strong DES will revitalize a demoralized and confused higher education system. Agnostics are less likely to give the fates so free a hand.

## The dramatic impact of the UGC



The UGC is made up of distinguished and worthy people: no fewer than 11 of its 19 members have associations with Oxford and Cambridge and five more with Durham and London. Indeed, the composition of the UGC reflects pretty accurately the university affiliations of Cabinets Conservative and Labour — a relationship which might have offered an opportunity for a more imaginative tactic by the UGC (also see below). One must surely consider whether the UGC had, in reality, very much choice in making the decisions it did, given its and the Cabinet's university affiliations.

Of course, it would have been more convincing if the technology committee had visited Salford in the past dozen years and if an appropriate committee had ever been to see what the drama department did, say, at Exeter before recommending cuts. But for us to jump to hasty conclusions about the UGC's proposals would be as unfair as are those proposals themselves. Yet one is nagged by doubts. Could not the UGC have done better? What underlying principles are at work? One might begin by thinking of what the UGC could have done and what options were out of the question.

In terms of finding out what was good and what was weak in the universities, the UGC could undoubtedly have done much better. Recently I acted as a specialist assessor for the Ontario Government. I was one of a team of three examining the graduate school of a single department of one university. One of the three was a very distinguished Milton scholar from a leading American university; the second was the chairman of an English department in a university in another Province of Canada. We made our visits independently and reported independently. My visit had to be for a minimum of two days. In the event, I spent five days at the institution, interviewed some thirty staff, several senior officers (including the equivalent of a provost-chancellor), and a good many graduate students. I also read through a fair number of past examination papers and scripts and 10 theses were (which, of course, I selected).

All the reports were made available to the institution for comment and the assessors can be asked to make responses to those comments. Now whether that was suggested was useful or not, there is no doubt of the difference in seriousness between such an exercise and the rapid flit-

**Given the UGC's university affiliations, says Peter Davidson, it is perhaps not so surprising that it made certain decisions when faced with allocating spending cuts. Nor should we raise our eyebrows to see Sanskrit encouraged, while Russian and drama departments get a mauling**

ting across the scene by a UGC committee, however worthy and distinguished its members. What can a single individual — who teaches a subject different from any in the institution he or she is assessing — gain from a 40-minute discussion with 30 members of a department concerned with graduate and undergraduate work?

It will be at once objected — and rightly — that for its June letter, the UGC had not time to make detailed studies; but then, perhaps the visitations made in the past ought to have been of a more serious nature. To that it might even more reasonably be objected that such is the nature of British universities that they would not have taken kindly to a close assessment of their work. In this, I believe, we have been very mistaken, but the effect falls hard upon the particular departments recommended for cutting without careful assessment (especially when they see patently obviously weaker departments, encouraged).

Was there, then, anything that the UGC could have done rather than appeal to an unheeding government? (And a Labour government would be as unheeding, just, to be fair, as universities were when Mrs Williams posed her famous questions a decade or so back.) There was, I think, one response the UGC might have made that would have been sure to be effective. Its members might have adopted the role of the Burgurers of Calais.

Given their universities of origin, neither a Conservative nor a Labour Cabinet, not the majority of senior civil servants, could have failed to respond to cuts which included the total closure of Oxford and Cambridge. The fate of Salford, Aston, and Bradford will, alas, leave an essentially elitist Establishment quite cold. Ironically, at a time of high unemployment, their graduates' good employment record will pass unnoticed, and, as so often in the past, no British government seems to know what to do with technological achievement. But to suggest closing Oxford and Cambridge — which would provide all the cut in students needed and nearly half the money to be saved — would have directed the

attention of all to what was happening to the universities, from members of the Cabinet up to those whose only interest in them is the Boat Race.

Of course, it would be a bluff, but it could have worked. (And if the bluff were called, we could, perhaps, look forward to future members of the diplomatic corps at Paris, Bonn, Rome and Moscow graduating from Bradford and being capable of speaking in the language of the countries in which they worked.)

The UGC might not have had much information on many of the subjects and departments it was cutting, but it did know what it was not going to cut. Inevitably, given the composition of the UGC, what it knew and thought most worthy was what was traditional, even hide-bound. Thus, drama was saved (Oxford, Cambridge, Durham, and London not being exactly replete with departments of drama) eight of a dozen or so drama departments in England (none in Scotland or Wales) being recommended for closure; thus, although it has been recommended that resources be concentrated in various areas, Sanskrit is to be encouraged at three separate institutions while a dozen or so Russian departments are to be closed down or amalgamated. It may be, of course, that demand for Sanskrit is booming and perhaps job opportunities in Sanskrit are legion. But one wonders whether the fact that the three Sanskrit departments to be encouraged are at Oxford, Cambridge, and London has some slight bearing on that decision.

The specific cuts are many and various, but one specific approach to university teaching in the humanities seems to have been particularly severely treated. The threat to this approach to teaching is, I think, far more damaging than even the harm to be done to individual subjects or departments. I refer to that kind of teaching in the humanities that incorporates doing, especially in collaboration with others. In addition to the value this has in employment (where many an arts graduate taught by traditional methods may, for the first time, find himself or herself engaged in working jointly with

others), it has also distinct educational advantages.

The recommendation to wipe out two-thirds of the drama departments in English universities may simply be a crude misunderstanding of what these departments do. But may there not here be something more serious than mere ignorance? I wonder, especially in the light of certain other recommendations, whether a particular approach to teaching the humanities in higher education is regarded as suspect by the UGC — especially as it is an approach not, so far as I am aware, much to be found in the universities which most make up the UGC.

I ought to declare my own interests. Unlike those drama teachers directly threatened by the UGC, I am not vulnerable to this recommendation. I am simply one of the 55+ whose early retirement would help finance keeping on younger academics. I am, primarily, a bibliographer. Bibliography is a subject even less fashionable than Sanskrit and so rare in British universities that it seems entirely to have escaped the UGC's notice. As is common among bibliographers in this country, over the years I have mainly taught English literature, often drama within an English department, occasionally drama for a drama department, and now and again film. I am not, and never have been, a member of a drama department.

There are, crudely, two ways of approaching the teaching of subjects such as English, music, drama and film at university: that is when practitioners of those subjects are not being trained. It is not our function at university to produce creative writers, composers, dramatists, filmmakers, and painters. Our aim, rightly or wrongly, is different, and we expect our graduates to fill a far wider range of roles in society than acting or singing in opera as a result of their time with us. So much is obvious. To go on from that and to imagine that a university education in drama, film, English, etc., should specifically not involve "practice," "doing", is quite another matter.

Now for drama students this "doing" involves activities not

obviously dissimilar from some of those practised at a drama school, or even the National Theatre; and some drama students may enter the theatrical profession. That should not lead to an assumption that the work of a university drama department is designed solely to produce actors any more than that graduates of English are destined to be novelists and poets. One of the most obvious roles for drama graduates to fill is in the very exacting area of youth community work; indeed some drama departments give their students this very experience.

In my own fields of teaching, I am delighted if some of my students become successful actors, writers, directors, and broadcasters, but I favour this second approach for all students reading English, drama and related subjects, whether or not they have any intention of treading the boards. Thus my bibliography undergraduates have always undertaken practical editing — this goes back nearly 20 years and the results of some such work have even been published to study the relationship of the printed and visual media students have been required to make modest films and television productions; to understand how to read a play off the page, they have been asked to write scenes collaboratively and stage them.

In no instance was I attempting to train scholarly editors, or film makers, or dramatists or actors, although in passing some understanding of such arts and skills was experienced. The prime object was quite simple: by doing, the students learned the nature of the subject better. In the recent academic year my students studying the theories of the Elizabethan theatre made two telefilms.

The object was to focus attention on those theories and the problems of their resolution. The success of this approach, in strict academic terms, is readily to be seen and has stood the scrutiny of internal and external examiners. It is this approach which is at the heart of teaching drama in drama departments at universities. It is an approach which can greatly improve the effectiveness of such teaching in the humanities, and would best serve our students in their working lives after leaving university.

I believe the UGC's onslaught should be resisted, not simply because drama (among other subjects) ought to be saved, but because this kind of cut represents a grave misunderstanding of what education at



## BOOKS

## 'Fair shares' for the racial minorities



Police in Liverpool, during the recent riots

Legal Control of Racial Discrimination by Lawrence Lustgarten  
Macmillan, £25.00 and £12.00  
ISBN 0 333 24387 0 and 24388 9

by John Rear

Following Brixton, Toxteth and Moss-side the discussion of race discrimination and prejudice, of black unemployment and the alienation of racial minorities was submerged by talk of rubber bullets and CS gas, of protecting property and maintaining law and order. That was perhaps inevitable. Nevertheless, those demanding legislative action would be better served by considering the comments on the Race Relations Act 1976 than to clamour for a new Riot Act.

This book contains a close, and excellent, analysis of the concepts and operating principles of the 1976 Act but also examines, through the eyes of a lawyer, the social problem which is the Act's subject. Much that a sociologist, social psychologist or economist would include in a work on this general subject is not to be found: nothing is said about theories of racial stratification, of prejudice or of micro-economic models of discrimination.

Conversely, much of the work is devoted to matters that the black-lawyer lawyer has defined out of his remit, as with the chapters on the condition of racial minorities in employment and the theoretical examination of concepts of discrimination. Thus the social reality of racial discrimination and disadvantage defines the setting of the study of the law.

From the point of view of the law teacher and student there is no doubt that the result is much more satisfactory than the more usual diet of textual exegesis, and the author has done well what he attempted. This is a timely book, stimulating in its ideas and thoughtful in its criticisms. If there is dissatisfaction, it is with what has been omitted, partly at least to meet the publishers' demands as to length. The book indicates a wider scope than the title in fact possesses. It is confined to discrimination in employment. This is a key area - perhaps the key area - but it does leave out matters such as housing, immigration and racial aspects of public order which a reader looking at a book on "legal control of racial discrimination" would naturally expect to find. Other omissions, also deliberate, are of any general analysis of the causes of racial discrimination and any consideration of why the legislation was enacted. Instead, the analysis proceeds from two assumptions. One is that an effectively designed law would cause people to change their behaviour, given that it is addressed primarily to businessmen "quotas, ratios, goals and timetables". Readers will recall, for example, the celebrated Bakke case in 1978 when the Supreme Court considered whether the University of California could establish more lenient standards for non-whites, combined with a policy of reserving a specific number of

places for minorities (a policy which was said to have resulted in the exclusion of the white, Jewish Mr Bakke from the medical school). They may also recall a recent news item in *The Times* (May 1), which reported that in India lower pass rates for untouchables and tribal candidates in the pre-medical tests for admission on the MBBS had led to widespread rioting.

One of the most enjoyable sections of Dr Lustgarten's book is his discussion of the concept of discrimination and, in particular, of the respective merits of the "fair shares" and "equal opportunities" views of racial equality. The arguments for reverse discrimination are based on the view that "if blacks have been deliberately treated in an unfair manner and whites have benefited improperly at their expense, it is reasonable to make recompense by the same criterion - race - that defined the basis of the ill-treatment". This works on the assumption that but for the effects of past or present injustice, individuals from various social groups would occupy levels of job, qualities of housing and places in education and so forth in roughly identical proportions. One can be sure that discrimination has ended only when "proportional representation" has been reached; only then can reverse discriminatory measures cease to be required. Allied to this may be the belief that proportional representation is anyway desirable in itself, since social justice demands a "fair share" of social goods for each distinct social group.

However, Dr Lustgarten points out that under the United States legislation "imbalance" is not of itself sufficient to justify "preferential treatment". In the 1976 Act Parliament rightly made non-discrimination the central principle, while nevertheless admitting derogation from that concept in its special assistance provisions. Dr Lustgarten however feels the Act is too restrictive in its narrow "adverse treatment" approach, quite apart from the "shockingly feeble" enforcement provisions to which earlier reference has been made. "An attitude of laissez-

faire in the face of manifest racial inequality is itself a form of discrimination", he says. He thus seeks tentatively to sketch, against the background of "the poverty of jurisprudential thought concerning group rights and social welfare rights", a legal concept of discrimination which incorporates as an inseparable element collective entitlement to remedial assistance. Public authorities would be charged with a legal responsibility to take some active steps to combat inequality when members of a minority group are found disproportionately among the ill-favoured, with efforts being made to reach all within the group who have suffered loss. This differs from the "positive discrimination" advocated in the Polden and other such reports in that the latter were "not concerned with legal rights, but with policies thought to be socially desirable, whose implementation remains purely a matter of political expediency. The collective fair-share notion", on the other hand, "incorporates the idea of substantive equality into the law, by making deviation from it a test of legality, not merely the wisdom, of the activity in question".

This collective fair share concept of discrimination is plainly attended by all kinds of problem. In practical economic terms it would require a shift in resources within our society; but, says the author, at least "the battle would be open and the choices clear; it would be carried on among the majority, and could not be resolved by foisting the inevitable sacrifices upon luckless individuals".

For that very reason the prospects of legislation along these lines seem remote. I am also pessimistic about the ability of our higher courts to handle legal concepts which call for them to adjudicate upon the adequacy of the efforts of public authorities to pursue administrative policies. Dr Lustgarten seems more sanguine on this point than I. However, his views merit a full discussion which they cannot be given here. It is perhaps a pity the author did not himself have space to pursue them a little further. He speaks elsewhere in the book of the straitjacket put by the common law upon social legislation in Britain, and a fuller comparative discussion of the American experience of class actions and collective remedies would have been interesting.

All in all Dr Lustgarten has very ably picked up the trail blazed by Hogg (Race, Jobs and the Law in Britain, 1970) and Lester and Bindman (Race and Law, 1972), though his is a different kind of book. It must be regarded as essential reading for all those actively involved in race relations problems, and recommended reading for lawyers and social scientists interested in the theoretical and practical limitations of law as a means of controlling social behaviour.

John Rear is head of the faculty of professional studies at Newcastle upon Tyne Polytechnic.

## Why did the Scottish voters reject devolution?

The End of British Politics? Scots and English political behaviour in the seventies by William L. Miller  
Clarendon Press: Oxford University Press, £17.50  
ISBN 0 19 827422 X

For the moment, the issue of Scottish devolution has died away. It may well return; if it does this study of Scottish politics will not be of great use in helping to understand the problem. The trouble, quite simply, is that the study is based on material already out of date.

Dr Miller examines both recent election results and the Scottish Election Survey of 1974. The parallel English survey was used to provide a comparison with public opinion south of the border. The main divergence he highlights is that since

1945 the position of Labour in Scotland has improved steadily while in England the party's fortunes have tended to decline.

That much is well known, but the book also contains much fresh information about Scottish political attitudes. The Scots claim to be less interested in politics than the English yet as they have the additional issues of devolution and North Sea oil to arouse excitement, one would expect the Scots to feel a stronger sense of political involvement. What is the reason for this relative unconcern? Are Scots more independent or more phlegmatic, or are they simply less willing to confess their enthusiasm to interviewers?

The election surveys related political opinion to age, sex, education, occupation, housing tenure and religious belief. Respondents were asked how far parties were trusted, how well leaders were regarded, and

for their views on various issues including unemployment, nationalization and the redistribution of wealth. Dr Miller has subjected the data to sophisticated correlation techniques. He is a master of his craft and explains his statistical methods with care.

The climax of the book is the 1979 referendum on devolution, the result of which, for me, came as a surprise. Why should a territory, offered special advantages, fail to grasp them with both hands? Dr Miller does not provide a convincing answer. Indeed, the research seems to aggravate the problem.

He shows that there was much sympathy for devolution, especially among Labour supporters, even before the Scottish National Party electoral successes of 1974. Certainly by 1978 the SNP was in decline, perhaps because Labour's devolution legislation had won over many SNP

adherents. Any suggestion that Scottish voters used the referendum merely as a chance to show dissatisfaction with the Callaghan Government will not do. A few weeks later at the General Election Labour strengthened its position in Scotland; compared with October, 1974, its share of the poll increased from 36 per cent to 41 per cent. And to suggest that the Scots treated the referendum as the English would treat a county council election, is to devolve devolution past the point of belief. Did people vote "No" because the amount of devolution on offer was not enough? Such a reaction would be illogical, for the Scottish Assembly would have been a natural focus for further regional demands.

Without an attitude survey in 1979 we do not know which groups of voters tended to vote in an unexpected way. Even then, there re-

mains the question, why? Was it that, by 1979, the Scots were worried mainly by the economic outlook, which made devolution seem a less important issue? Did it even seem a bit risky?

Much time and money has been spent on attitude surveys. For academic opinion, resources spent on research are almost always regarded as well spent. The wider public may have doubts. It may be said that the results should provide some forewarning of future trends of opinion. Such criticism is unfair. Political behaviour is not as predictable as the reactions of minerals and vegetables. Let us take comfort from that.

Peter G. Richards

Peter G. Richards is professor of politics at the University of Southampton.

## Pool your resources and get into print

Patrick Davis explains Norway's answer to the problem of financing academic research - and having the results published

not set aside a small percentage of whatever profits may come to help with the country's research? And so it came to pass. And the money flowed in.

Three more universities and 30 years on, the pools still bring forth their profits, but now direct state allocations pay for more than half of the NAVF budget. For 1979 this was Nkr 109 million (roughly £10 million at 11kr to £1).

There is no space here for a full account of NAVF's organization and activities. Those interested can obtain the latest annual report, which is published in an English version. It is worth noting that nowadays the council's five sub-councils (humanities, natural science, social science, medical and societal planning) often initiate the planning of research programmes, both basic and applied, and do not simply judge between applications received from outside.

As regards publishing, NAVF in 1979 granted Nkr 3.7 million (£336,000) for the publication of scholarly monographs, and Nkr 2.6 million (£236,000) for scholarly journals. These are large sums. It has long been recognised in Scandinavia that scholarly publishing for small communities cannot be financially self-supporting, "that publication is a vital part of research itself and that no research project is complete without dissemination of its findings".

NAVF does not itself publish. Currently it has a four-year contract with Universitetsforlaget (the university press under which the press will be given at least 60 per cent (in money terms) of that part of the publishing budget (Nkr 4.7 million in 1979) which NAVF allocates for publications to be issued by Norwegian publishing organizations.

For monographs the agreement with the university press is that NAVF will pay for the production costs of 500 copies in paper covers plus 100 per cent for overheads. Estimates are submitted and accepted. Fifty per cent of sales income for the first two years is returned to NAVF, which amounts to some 6-7 per cent per annum of its investment. If the press thinks it can sell more, or perhaps wishes to publish in hard covers or to add lavish illustrations, it pays the extra costs

and keeps the extra income. The press fixes the published price. No royalties are paid to authors. The average world-wide sales for a monograph is around 350 copies. Some may sell as few as 50, others several thousand.

Monographs may be given to other Norwegian or to foreign publishers, often at the suggestion of their authors. Sometimes the institute that funded the research will be helped to publish direct. With foreign publishers the subsidy would normally be 50 per cent of production costs, with commercial Norwegian publishers it would be between 60 per cent and 100 per cent; and for both no share of sales income is required. Obviously the investment by NAVF will be less with these other publication routes. On the other hand the university press distributes worldwide (direct or through agents) and has built up an experienced organization for the handling of scholarly works.

There is a central committee to oversee publishing policy, but each of the five sub-councils handles its own publishing needs, has its own publications committee and its own budget. The Council for Research in the Humanities, for example (total membership 19), which had the largest budget in 1979, has a publications committee of four professors, elected for three years (with an option for three more). It has a 60 per cent-time publications officer. This publications committee meets some five times a year. Any organization or individual can apply to it for help. About 60 per cent of applications are accepted. Editorial decisions are based on independent reports, as with any publisher, and upon personal knowledge. Editorial decisions do not need to be concerned with sales potential but only with the quality of the materials. Those who operate the system say that there is no governmental pressure to publish one book rather than another. The finance comes from the government but its use is controlled by academics and the administrators who work with them.

Once a book has been accepted, it is the responsibility of the publications officer to arrange for publication. There is much flexibility here since the needs of the sub-councils differ. The Council for Research in Humanities, for example, will use most of its budget on monograph publishing, though in 1979 it also supported 31 Norwegian or Nordic

journals; while the Council for Natural Science Research works almost entirely through journals, subsidizing 26 in 1979 as against one monograph.

As already mentioned, NAVF supports many scholarly journals. Subscription numbers range from 250 to 6,500, with an average between 1,000 and 1,500. About 40 per cent of the contributions to the scientific journals come from other countries, more in some, less in others. This is a policy decision: the purpose is to encourage high standards. When journals become financially self-sufficient, as some have, support ceases.

NAVF does not subsidize foreign journals except through the three Nordic Publishing Boards (NOP) for humanities, social sciences and natural sciences, joint bodies established by governmental research councils in Denmark, Finland, Norway and Sweden.

The purpose of NOP is, through cooperation, to support and rationalize the publication of Scandinavian scholarly journals that serve international markets. Some journals have merged, some have been encouraged to specialize, others have closed down; rationalization of production and editing processes is assisted. NOP also organizes seminars on the writing and editing of manuscripts.

Universitetsforlaget, the university press, which publishes so much of the work subsidized by NAVF, was established in 1950, and in the early years a major part of its turnover came from NAVF works. Now the proportion is about 15 per cent and scholarly publishing forms only one of the press's seven editorial divisions. Scholarly publishing has not declined; other publishing activities have expanded.

The press is owned by the Student Welfare Organization, a comprehensive body set up by Parliament in 1939. It is governed by a board of 10 people - one academic each from the universities of Oslo, Bergen and Tromsø, four students appointed by the student parliament, two employees of the press and one member of the board of the Students Welfare Organization.

The board no longer, as formerly, makes editorial decisions on individual titles: except for NAVF

monographs, this is done by the editorial staff of the press. Scholarly books cannot be remunerated for years - a convention that may not be revised soon since strong new technology in reproduction is available. The university press employs four English editors on the standard of English in the language which has to be used to achieve more than local readability. Of the 42 journals published by the press in 1981, 33 get support from NAVF or NOP.

The bulk of the press's turnover derives from the publication of textbooks for the universities, for the district colleges (which provide education to a standard higher than the secondary schools but lower than the five-year university degree course) and for the several hundred vocational schools. The press also distributes government primary office publications. In its textbook publishing the press is in competition with the Norwegian commercial publishers. Overall it generally makes profits which are ploughed back into the organization.

There are other research organizations in Norway (for law and for agriculture, for example). Moreover money channelled to NAVF is not the only way in which the Norwegian government helps publishing. As in Britain, books can be fixed by publishers, then government money to assist publication in Lappish, and to help versions of Norwegian still official.

The Government also helps and distributes to the public libraries 1,000 copies of all new fiction (and new editions of novels) without help it is probable that very little fiction would be issued. However, it is through NAVF's scholarly publishing research that its help, and in Britain we have the equivalent to this. Our research councils seldom give direct subsidies to publishers. All who fund research ought to be reminded again and again that in this technological age the health of a nation depends upon a free chain. The end links of the chain, the pay load, are the goods and proven ideas we sell, but ourselves and to other nations' first link, without which nothing begins, is the thinking in our heads. Thinking breeds theories. Theories are stimulated, tested and refined by research, whether in a university or a bed-sitter, a research establishment or a factory workshop. All that research must be published and is to be accepted and used and for by the wider community. To encourage research and to fail to encourage its publication is absurd.

British publishing has entered a new world. It may be a bloody one, but it is the way to the future. It is an age for the whole world, for which, as Norway has done, we need to devise a system of patronage without control.

The author is publications officer at the London School of Economics.

It has become difficult for publishers in Britain to issue short-run specialized scholarly books. The reasons are well known, and there is no space here to recapitulate them. The purpose of this article is to suggest that all of us - authors, publishers, university and research council administrators, directors of grant-making bodies, civil servants - need to re-examine the curious convention in British intellectual life whereby hundreds of thousands of pounds are put up for research but seldom a penny for the publication of that research.

First, let me question one often-repeated assertion - that only the weak book fails to get accepted, that the good book will find a publisher. I do not believe this. If a book is especially specialized, or explores new territory, or crosses disciplines, or will not travel to the North American market, publishers will probably turn it down - they can no longer afford gambles. And judgments are fallible. And writing is hard work; many of us will not start a "difficult" book knowing that the chances of publication get slimmer by the day.

Publishing in Britain is the last home of free enterprise, almost untouched by state assistance (or interference). There are persuasive arguments, moral and practical, for leaving things that way. "Beware of governments when they come bearing gifts." But British publishers probably owe their ability to support with their cheque books their moral distaste for state interference to the fact that English is, and has been for several centuries, a world language. For so long as printing costs were substantially lower in Britain than in America (our chief competitor and largest overseas market for books printed in English), we could rely on our own technical and entrepreneurial skills to print, sell and make a profit on books of almost any kind, however specialized. Now Americans can print books more cheaply than we needed, advises ministries, supports down.

Other countries have evolved differently. State assistance is virtually essential in many third world nations. Wherever the home market is poor or small, publishers may need assistance.

Norway has a population of 4,079,498. Thus its own market for works of scholarship is minute. In 1949, after the disruptions of the Second World War (Norway was an occupied country for five years), the government established the Norwegian Research Council for Science and the Humanities (NAVF). It assesses areas where research is needed, advises ministries, supports specific research projects, grants research fellowships, will give or loan scientific equipment and it subsidizes publication.

Before the war there was only one university, there had been little state aid for research and the volume of research was small. When after the war it was proposed to start state-funded pools, the story is that some of the professors who had been in German prisons alongside the scientists who were now government ministers rang up the latter and said: "Why

university can be - indeed, ought to be - about in the humanities. The fact that some of the universities so strongly represented on the UGC behind the needs of scholarship and education in this respect is only too readily apparent. In many fields, academic and national. Let me try to put this "teaching by doing" into a slightly broader context, though going no further back than to the time of Shakespeare.

Some 16 years after the first purpose-built, professional theatre was erected in modern Britain, and shortly after Shakespeare had completed the appropriately named *Comedy of Errors*, a controversy broke out between Dr William Gager of Oxford and Dr John Radcliffe of Cambridge on the subject of students sitting in plays. Gager, a writer of academic plays (in Latin), had graduated DCL in 1589 and was supported by the Professor of Civil Law at Oxford, Albericus Gentilis. All parties opposed professional theatre, so Gager's case for academic theatre is the more telling. Gager, having explained that his students did not act as did professionals, did not do so for the same purposes, nor ran

into the same dangers, listed the virtues of 'doing' rather than merely reading. I have modernized the spelling of this passage from the manuscript and added a few explanatory notes. Contrarywise to professionals

Gager writes, we present plays (to recreate ourselves, our House (College), and the better part of the University (a nice ambiguity), with some learned Poem (= play) or other; to practise our own style in prose or verse (= practical writing exercise); to be well acquainted with Seneca or Plautus (= to better understand the 'set texts' as it were); honestly to embolden our youth (= to enable them to present themselves with confidence); to try their voices and confirm their memories; to frame their speech; to conform them to convenient action (= to give them natural poise); to try that mettle in every one and of what disposition they are of (= discovering their potentialities and capacity to work one with another); whereby never any one amongst us, that I know, was made the worse, many have been made the better, as I dare testify me to all the University. What Gager wrote in 1592 should

apply still to a university education in the humanities; he wrote as one opposed to professional theatre but who could nevertheless see the virtues of 'doing' as part of such an education.

I don't suppose Richard Valpy, the famous headmaster of Reading School for 50 years (1781-1830), knew Gager's letter, but he continued the tradition. In his school he developed the production of drama through his pupils - Greek drama in Greek, and Shakespeare adapted appropriately for performance during the Napoleonic Wars. Mary Russell Mitford, in her novel *Belford Regis* (1835), explains that the plays were presented on the occasions of triennial visitations from "Heads of some of the Houses at Oxford," for the "purpose of examining the pupils" as a sort of UGC Visitation. She goes on to say that "the good Doctor" thought

that a Greek drama, well got up, would improve the boys both in the theory and practice of elocution, and in the familiar and critical knowledge of the language; that it would fix their attention and stimulate their industry in a manner far beyond any common tasks

or examinations; that it would interest their parents and amuse their friends. (Bk 1, ch 12)

The ability of a Gager or a Valpy to fix attention and stimulate industry "in a manner far beyond any common tasks or examinations" is still not learned in some places after 400 years.

In 1916 Hermann Bahr, when describing how he had found difficulty in coming to terms with a new art form, expressionism, wrote specifically of the problems he faced in responding to the needs of his students in Danzig who wished to know about it. He turned to Goethe for support and one passage he quotes sums up to perfection what I am getting at. Goethe, says Bahr (I quote from R. T. Gribble's translation of *Expressionism*, 1925),

urges the importance of "doing." By doing, knowledge becomes complete: "The half-known hinders knowledge. As all our knowledge is only half-knowledge, therefore our knowledge is ever hindering knowledge." All knowledge is powerless until a potentiality is added, until we know we apply to what we wish to know. In 1960 Professor Edward Shils

entitled an article on the instability of Oxford and Cambridge to one of terms with a new syllabus from Dr. E. V. V. We surely suffer from the same limited understanding. And then, "On the Shills then, the UGC, the senior Civil Service, and Cabinets Socialist and Conservative. Shills commented on "intellectual backwardness" and "institutional feebleness" of these universities.

The central fact is that the highest test of British intellectual life - the Oxford and Cambridge tradition - is a man of acute intelligence and fastidious standards of erudition within the constraints of a narrow imagination and an undeveloped heart. The narrow imagination cannot cope with the logic of the heart as it beats in daily life and in times of crisis.

It is not only we in the universities who witness to such a tragedy. Shills's word, not mine. The author is professor of English and American literature at the University of Kent.



## BOOKS

## Strategic reasons for an antipodean colony

Convicts and Empire: a naval question 1776-1811  
by Alan Frost  
Oxford University Press, £17.50  
ISBN 0 19 554255 X

Here is both a study of the origins of Britain's convict colony in New South Wales and an examination of the strategic policy in the Far East of the Younger Pitt's administration. Alan Frost, who teaches Australian history at Melbourne University, attempts, with incomplete success, to link both of these themes into a single thesis. He is in fact more successful in dealing with the policies of Pitt than with the early years of the new colony.

The traditional explanation of the founding of Britain's first colony in New South Wales in 1788 was that Botany Bay was chosen as a dumping ground for Britain's surplus con-

victs when it was no longer possible to send these to the North American colonies which had secured their independence in 1783. Alan Frost rejects this claim out-of-hand, without ever subjecting it to close scrutiny. He also rejects, this time in more detail though only in an appendix, the more recent claim made by several historians that New South Wales was colonized for commercial motives as a base for future trade with China, the western coast of South America and the Pacific Islands.

In Frost's opinion the convict colony of New South Wales was established for far-reaching strategic and imperial purposes. After the loss of the American colonies Britain's weakened economy depended heavily upon her trade with India and the Far East, but this valuable commerce was threatened by the rising ambitions of the French and the Dutch. To protect this trade and to combat

the larger combined forces of her two rivals Britain needed to be able to provide the Far Eastern squadrons of the Royal Navy with local bases, naval stores for ship repairs, and other supplies. Various sites in Africa and among the islands of the Indian Ocean were considered for this service, but were rejected for a number of reasons. New South Wales was finally selected and the first-convict labour arrived there in 1788.

The project for a convict colony in New South Wales that would allow these prisoners to serve the strategic objectives of Britain was put forward in the 1780s by the scientist Joseph Banks, the merchant John Call, the naval captain George Young, and the American Loyalist James Matra, but the proposal did not become reality until it became part of the Younger Pitt's wider imperial policy. It is Alan Frost's contention that

William Pitt, ably assisted by Henry Dundas, William Grenville and Baron Malmesbury, established New South Wales as a staging and repair post for the Royal Navy. This project was part of a far-sighted, coherent and consistent strategy to protect Britain's imperial and commercial interests in India and the Far East. Although, in the event, New South Wales did not come to fulfill this overriding purpose, this was only because Britain secured several more suitable naval bases and staging posts on the trade routes to the Far East during the prolonged war with Revolutionary and Napoleonic France.

In support of this contention Alan Frost draws upon a wealth of manuscript sources from a wide variety of archives. He also wisely places the origins of New South Wales within the wider context of Britain's rivalry with France in the Far East and elsewhere. Nevertheless, his thesis

does not carry complete conviction and this is not simply because, as indicated above, he tends to neglect alternative explanations for the origins of New South Wales nor because, in some places, he obscures his central argument by bringing in irrelevant material. He overplays his hand by investing the Younger Pitt with a more perceptive and thorough-going policy of empire than that great minister possessed. Britain's second empire may not have been secured in "a fit of absence of mind", as earlier historians have claimed, but nor was it gained by such far-sighted planning as Frost detects in the twists and turns of Pitt's foreign and imperial policies.

H. T. Dickinson

H. T. Dickinson is Richard Lodge Professor of history at the University of Edinburgh.

## Eminent peace-workers

Bertrand Russell and the Pacifists in the First World War  
by Jo Vellacott  
Harvester Press, £28.50  
ISBN 0 7108 0050 9

The League of Nations Union 1918-1945  
by Donald S. Birn  
Clarendon Press: Oxford University Press, £18.50  
ISBN 0 19 822650 0

It may be a reflection of our current anxieties that historians are beginning to study peace movements with as much zeal as pacifists pursue peace. Alongside Martin Ceadel's thoughtful attempt to define the pacifist "faith" in Britain between 1914 and 1945 must be placed these two very different but complementary studies.

Jo Vellacott has immersed herself in her topic for over a decade. She has had the great advantage of close contact with the Bertrand Russell archives at McMaster University and has studied an impressive range of materials on both sides of the Atlantic. She makes no attempt to hide her sympathy for Russell and aims to inform the reader about the complex development of a "flawed but great human being".

We start with Russell in 1914 - a man of 42 with a world-wide reputation for his work on the interrelation of philosophy, mathematics and logic, though deeply troubled by his inability to answer Wittgenstein's criticisms. He has suffered the anguish of the breakdown of his marriage and is caught in a trap between the intensity of his passions and his commitment to rationality. His mild political excursions can only be described as dilettante exercises. On the whole, the author contends that, despite occasional bouts of despair, Russell was well content with his environment: it was the outbreak of war that shattered his apparent complacency. To Russell it was monstrous that the war should have occurred and that Britain should take part in it; a red blast of hate had overcome all thought and reason.

He had never believed that anything so frightful could happen and bitterly resented the Liberal "betrayal". Such was his fury that he felt disposed to murder any member of the Cabinet he might chance to come across. Since such an opportunity did not present itself, he flung himself instead into a wide range of political and intellectual activities, in the process of which he extended his range of social contacts and was compelled to develop administrative skills which he had never hitherto thought he possessed. The detail in which his wartime activities is here traced has not before been equalled: Russell is



Bertrand Russell with his wife Alys Pearsall Smith in 1894, from Paul Levy's *G. E. Moore and the Cambridge Apostles*, now issued by Oxford University Press in paperback at £3.95.

shown on the public platform and in the No-Conscription Fellowship. This whirl of activities was, on the whole, stimulating to him, even with the seemingly inevitable emotional entanglements which accompanied it. The philosopher also finds himself in prison.

Specialists will relish the new factual information that Jo Vellacott has made available, and may be surprised that her emphasis throughout is on the intellectual and emotional development of her hero. Rather like a headmistress assessing a pupil, she concludes that he had taken enormous strides during the war, and sees him as emerging from his experiences more mature and less naive. That, of course, is a matter of opinion. It is a fascinating study but perhaps her own sympathies prevent her from probing more deeply into Russell's reactions to the events of 1914. Nor do these doubts hinder her judicious selection of the activities of her hero receive any consideration.

One of Russell's most public disagreements was with Gilbert Murray, with whom he had previously been on terms of close friendship. Naturally, Murray and Lord Robert Cecil and acolytes like Philip Noel-Baker form the centre of Birn's important study of the League of Nations Union - another transatlantic offering. It has long been customary to recognize the importance of the league as the largest and most influential society in the British "peace movement" between the two world wars but, partly because of difficulties over papers, no full account has been written.

Birn's approach is basically chronological, though he gives special attention to such clearly crucial

tests of its effectiveness and significance as the Manchurian and Ethiopian Crises, and devotes one chapter to the league's propaganda methods. He makes no attempt to disguise the crumbling edifice of the league in the late 1930s, though, given a certain amount of ritual reference to "middle opinion", we are asked to ponder on why opposition to the government was ineffective. The tone is generally high-minded. Birn clearly wants to rescue the League of Nations Union from its academic despatches while being unable to come up with a convincing defence. His only achievement is to tell us that the league cannot be held responsible for its failures in the 1930s: the league leaders, we are informed, ought to have offered a "rigorous critique" of the league mechanism or of the principle of collective security. If they had done so they might have equipped the British public to face the challenges of the 1930s with a "sober, realistic perspective". They might, indeed, in those days, however, a professor of Greek did not indulge in a "rigorous critique" of anything.

Birn generally gets his facts right, but it is a pity that he has looked at the structure of the organization exclusively through the eyes of its leaders, when it would have been most interesting to have looked, for example, at branch operations. But though he has not written the last word on the LNU, he has made a good start. These two books combine to make it clear that peace work is a difficult business.

Keith Robbins

Keith Robbins is professor of modern history at the University of Glasgow.

## Drawing battle-lines

Froissart: historian  
edited by J. J. N. Palmer  
Boydell and Brewer Ltd, £20.00  
ISBN 0 85115 146 9

War and Chivalry: warfare and aristocratic culture in England, France and Burgundy at the end of the Middle Ages  
by Malcolm Vale  
Duckworth, £18.00  
ISBN 0 7156 1042 2

Right at the start of his famous *Chronicles* Sir John Froissart (who, because he was born in Valenciennes, then a town of Hainault, about the year 1337, did not have to take sides in the Hundred Years War), tells the reader that he is writing so

"that the honourable enterprises, noble adventures, and deeds of arms, performed in the wars between England and France, may be properly related and held in perpetual remembrance". Froissart is indeed, above all, a historian of warfare, and warfare constitutes the common ground between those two otherwise very different books.

The collection of essays edited by John Palmer seeks, "by pooling the talents" of a team of historians, to "examine the major areas treated by the *Chronicles* at a level which would be beyond the capacity of a single individual". This characteristic justification for the multi-author treatment of a subject is seldom borne out by the collection of specially-commissioned essays by well-known experts which invariably follows.

Certainly in this case one feels that a single enthusiastic research student might well have been more profound and scholarly, even over the broad front presented by Froissart, than the giants of recent fourteenth-century historiography all invited to say a few words about Froissart in relation to their own specializations. Almost all of the 10 authors collected here are experts, but on subjects far removed from the history of literature or historical writing. Richard Barber, John Bell Henne-man and J. W. Sherborne discuss Edward the Black Prince, Charles V of France, and Charles VI and Richard II, as portrayed by Froissart, and Michael Jones, P. E. Russell, J. van Heerwaarden and Pierre Tucco-Chala, predictably, discuss Froissart's treatment of their "own" areas: Brittany, the Iberian Peninsula, the Low Countries and the Midi. These pieces are supported by a perceptive consideration of Froissart on warfare by Philippe Contamine, a contribution by George T. Diller, and some speculation by the editor on the different versions of the text of Book I of the *Chronicles*, which is unfortunately not based on a study of the manuscript relationships. Malcolm Vale's book, though epi-

sodic and discursive, is full of wit and interest and based on a wide knowledge of printed and unprinted sources. Like so many other recent works on the late Middle Ages, the focus is on the same now rather familiar area, taken up by France, Burgundy and England; and the same aristocratic culture which mesmerized the Dutch humanists. Indeed, the book goes with a discussion of Huizinga's text and continues throughout to have a certain old-world charm or otherworldliness, which even spills into the generous footnotes with their furrows of *op cit* and *ibid*, worthy of some nineteenth-century scholar.

What the author has to say to the literature of nobility and chivalry (two of them at least, the *Test d'Or* and the *Croisade*), some moments and heraldry, infantry, cavalry and artillery, is all of it stimulating and some of it new, but the book is often infuriatingly brief, as altogether lacking, on important points. Charles the Bold's military, for example, surely merits more than the somewhat waggish and misleading footnote remark that "unfortunately his 400 guns were all pointing in the wrong direction at Muret". But what here above all when the appetite for more is the author's own, which, like chivalry, attracts comment and discussion but not, as here in embryo, sustained study.

Dr Vale's *War and Chivalry* at once brings Froissart to mind, in who better than Froissart reflects in such rich and lively detail the warfare and chivalry of those days? Froissart, the inimitable narrator of knightly deeds of arms and prowess, scarcely appears at all in *War and Chivalry*, though he is savaged by Palmer's *Co*, who label him "mediocre" though he was really a human being, a writer, a poet even, and one scouring through his pages for mythical entities historians delight in calling "facts". And what does this band of meticulous experts discover? The facts are not there, or if they are, Froissart has got them wrong. This "historian" is a plagiarist according to Palmer; his "methodology" was deplorable, we are told. Still, there are many good reasons why, long after many "experts" have forgotten, people will still read Froissart and discover for themselves the world of chivalry in the fourteenth century.

Richard Vaughan

Richard Vaughan is the newly appointed professor of medieval history at the University of Groningen in the Netherlands.

## BOOKS

## The rhetoric of criticism

The Nature of Criticism  
by Colin Radford and Sally Minogue  
Harvester Press, £18.95  
ISBN 0 7108 0082 7

Colin Radford is a philosopher, Sally Minogue a literary critic. They have combined their powers to write a book about the basis of interpretation and judgment in criticism. They believe that critical arguments "are frequently complex, elusive and rhetorically misleading as to their true nature, very diverse and often dubious".

The authors want to induce critics to become "more self-aware and self-critical" to understand "the problems involved in practising criticism, and the consequences for its practice". These are worthy aims: it must be a good thing to know what you are doing, even if there is a risk that the knowledge will impede the non-chalance with which you do it. English critics play their work mostly by ear, rarely showing much interest in the theoretical questions surrounding or confounding what they do.

There is a good deal of hard theoretical argument in this book, but the reader is helped, especially at the beginning where help is most desirable, by seeing what Radford and Minogue make of selected critical acts, particular interpretations and judgments. They start with a few apparently straightforward questions. What sort of judgment is involved in saying that *Hamlet* is a tragedy, that "Let Me Not to the Marriage of True Minds Admit Impediment" is about the nature of true love, that *Animal Farm* is an allegory about totalitarianism? They then consider some rival interpretations: Davidson versus Day Lewis on Marvell's "To His Coy Mistress", Empson versus Pick on Hopkins' "The Windhover", P. R. Leavis versus Aldous Huxley on D. H. Lawrence, Leavis again versus R. H. Fogle on Shelley's "Ode to the West Wind".

Leaving quarrels aside, they examine at great length a few critical observations. Cleanth Brooks's remarks on a poem by A. E. Housman, Christopher Rick's on Tennyson's "In Memoriam", Jon Stallworthy's on Yeats. These critics will be

astounded to see how their fairly casual sentences have been taken up with such gravity, but I suppose that only makes a case for Radford and Minogue.

These chapters are interesting, but the examples of critical disagreement are not all well chosen. There is so much to be said about "The Windhover", and so much has already been said, that the invitation to think again about the meaning of "buckle" in line nine is dispiriting. The juxtaposition of Leavis and Huxley on Lawrence is not rewarding, it is not specific enough. But these early chapters are useful in providing the reader with a context for the large questions at the end: "Are there any quite general criteria of excellence in art?" and "If the quest for canons of aesthetic excellence seems fruitless, may this not be because, as some think, critical reasons are logically singular and cannot be general?"

At one point Radford and Minogue seek "a very general explanation of why it is that criticism is an art, rather than a science". But they give no reason for thinking that criticism is an art. I don't think it is either an art or a science; it is a rhetoric. It is in no respect different from any other discursive practice, except that it confines its attention to, say, literature and certain issues that arise from literature. Wouldn't it help if we accepted that literary criticism is rhetorical and ideological; that a critic practises the strongest rhetoric available to him; and that a critical act, seemingly analytical or interpretative, issues from an ensemble of vaguely or definitely held attitudes about things in general? Leavis's ostensibly critical account of T. S. Eliot's *Four Quartets* has a far more direct and intimate relation to his notion of the secular and the religious dimensions than to the analysis of Eliot's language: it appears to enforce.

It is a limitation of this book that while the authors make much of the diversity of criticism, they don't make enough of it, and keep referring to "the critic" in abstract terms. In practice, critics do many sorts of things, they recite the plot of a novel, they talk about rhyme schemes in poems, they say that one

play is better than another, they even review books. I know no critic who answers to the account Radford and Minogue give of "the critic".

The authors are concerned with the basis of judgment in literary criticism. They refer to several critics, but they don't say anything about their own judgments. They say that "To His Coy Mistress" is "amongst other things an essay in seduction", but it isn't; it's a poem written as if it were an essay in seduction. They remark that "to say that a comedy should be funny is the funniest of tautologies". Not it is! *The Divine Comedy*. On "The Windhover" they say the poem "warrants such a reading as Empson's and does not warrant Pick's", but they don't consider how many questions are begged by that word "warrant". What does a poem warrant? Who is to say what it warrants? Is Pick's interpretation of "The Windhover" demonstrably wrong? I think I could show that Empson's arises as much from his feelings about the Catholic church and the priesthood as from any disinterested reading of the words on Hopkins's page. But there is one sentence in the book which I should especially like to see Radford and Minogue examine:

However much Ken Russell might protest that his film *The Devils* is an attack on and an exposure of corruption, the way in which it wallows in its own evil seems too strong a sign of self-indulgence to ignore.

This sentence seems to me too strong a sign of self-indulgence to ignore. What is the basis of the judgment in "wallows"? What does "its own evil" mean? Does it mean (a) the evil thing the film is, (b) the evil the film has acquired as one of its attributes, (c) the evil doings or images which are the content of the film? The sentence is just as striking, and just as loose, as the sentences a busy journalist or film-reviewer would write without a thought of theoretical nicety.

Dennis Donoghue

Dennis Donoghue is the Henry James Professor of English, American Letters at New York University.



This etching of Zanni, a man-servant in baggy trousers wearing a torn, wide-brimmed hat, is one of three studies by Jacques Callot (1592-1635) of characters in the Italian Commedia dell'arte. It is reproduced from Arthur R. Blumenthal's *Theater Art of the Medici* (1975), which was published by the University Press of New England to accompany an exhibition of over one hundred and fifteen drawings, watercolours and prints held at Dartmouth College, New Hampshire.

## Remember the country parson's daughters

The Woodlanders  
by Thomas Hardy  
edited by Dale Kramer  
Clarendon Press: Oxford University Press, £25.00  
ISBN 0 19 812504 6

Barring a few distinguished exceptions such as R. W. Chapman's Oxford edition of Jane Austen (1923-54), it is only recently that the texts of novels have been subjected to the scholarly attention considered appropriate in scholarly editions of, say, Shakespeare or Wordsworth.

There are obvious reasons for this: poring over textual variants in such lengthy works as novels is a great chore; also the virtues of long prose works may seem less likely to reside in their authors' *ipsissima verba* than in the case with poems: if the loose "baggy monstrosities" among them can accommodate some weak passages and episodes, the odd misprint too might be tolerated. Greater scholarly prestige, moreover, has been attached to editing texts from earlier periods and in the more time-honoured forms of poetry and drama. In 1964, Professor Fredson Bowers, the great bibliographer and textual editor, in the preface to his paper on the principles for editing nineteenth-century texts, said that when such work received the careful effort that has been established as necessary for English Renaissance texts, it would become a respectable occupation at last, and not a piece of hack work for the paperbacks.

Happily English and American novels have begun to appear more numerous in definitive scholarly editions, and not mere honest

drudges but editors of critical and scholarly distinction have lately been willing to devote the great stretches of time necessary to the task. Even the cheap paperback reprint end of the market has seen considerable improvement. Thus the current paperback reprint of *The Woodlanders* in the New Wessex (1974) and Penguin English Library (1981) editions rise above "hack work" textually, as in other respects. Each contains "A Note on the Text", explaining its development over the years and making clear which text has been used; the New Wessex reprint also has a useful appendix on Hardy's revisions. Both reprints, indeed, draw upon the present Clarendon edition's earlier reports on his textual researches.

Dale Kramer, editing *The Woodlanders* (in what is claimed to be the first critical edition of a Hardy novel since the lapse of copyright), has a large and stony vineyard in which to labour, or a many-layered site to excavate. More than most of his fellow novelists, Hardy went on fussing about his text, further revising it on most of the occasions when it appeared in new form - initial serial publication, three-volume edition, one-volume edition, successive collected editions - so that his unfortunate editor has had nine authoritative versions, starting with the heavily corrected manuscript, to collate. Dr Kramer's one bit of luck, though he would doubtless not call it that, is that the original Dickens editors, for instance, have to cope with two or three stages of proof sheets besides the other stages of the text. Even here, Dr Kramer's luck does not

hold, because the first American serial version, and first American book version, were set from copies of the English proof sheets corrected in ways that do not accord entirely with the corrections that Hardy was making for his English publisher.

The introduction gives a clear exposition of the complicated evolution of the text, with an excellent analysis of what Hardy was striving to do at various stages of his composition and revision - altering or clarifying his notions of the characters and action, improving his style, making more explicit what had earlier only been hinted. As often when his novels were serialized, the magazine editor was nervous about the "warmth" of some episodes. "A gentle hint on one matter," wrote the editor of *Macmillan's Magazine*, "he should contrive 'not to bring the fair Miss Suke to open shame'." Let the human frailty bug, for it was not the fair Miss Suke's blunders that the editor wanted to save; but Hardy duly marked "Omit for mag" the brief indication that Fitzpiers's tumble in the hay with Suke Danson lasted all night. He even had Fitzpiers sinking down on the next day to Suke's, rather than the same one.

Such evasions did not save the editor from a magisterial rebuke from *The Saturday Review*, where the editor had been "felt that *Macmillan's* might be put without any hesitation into the hands of our daughters", but now, "through some oversight", it had contained a story "certainly not fit to be printed in a high-toned periodical and to be put into the hands of pure-minded English girls". Dr Kramer, alas, does

not quote this letter, which is not only delightful for its rich Lady Bracknell tones but also reminds us that these magazine editors were not being nervous without cause. The letter indeed precisely fulfils the warning that Hardy had received a decade earlier from another such editor, Leslie Stephen: "Remember the country parson's daughters. I have always to remember them!"

Like most of the Clarendon texts, only more so, this is an austere textual edition. Besides its substantial introduction it offers ninety pages of appendices giving fuller details of variants in accidentals and substantives, notably in the manuscript (which contains many intriguing first and second thoughts). "No attempt," state the general editors of the Clarendon Dickens, "has been made to undertake the immense task of explanatory annotation; and the introductions will not include a critical appraisal." The Clarendon Edition of the Novels of the Brontës adopts a more liberal policy; its *Jane Eyre*, for instance, does offer explanatory notes, and appendices on various aspects of the composition.

We must be grateful for these editors' establishment of an uncorrupted text, with variants selected on an intelligible principle, and with rejected variants fully shown ("All the cards on the table, face up", to quote Fredson Bowers's motto). To cite a classic instance: a nonsensical reading in the second sentence of *Edwin Drood*, uncorrected by Dickens, survived for a hundred years until the Penguin and Clarendon editors put it right. It remains regrettable, however, that most of these

editions, including Kramer's *The Woodlanders*, confine or virtually confine themselves to one textual task, splendidly though they do it. The "immense task of explanatory information" needs to be tackled, however, and few scholars will have been so well equipped to attempt it as these learned editors, who have had to frequent their assigned texts for decades. Thus the scholarly reader of *The Woodlanders* who has forgotten or never known what *panache* or a *hollow-turner* is, or what distinction Mrs Melbury is making when she judges that her step-daughter "may shail; but she'll never wamble", must turn from this expensive authoritative edition to those paperback hack-editors scorned by Professor Bowers.

Granted that the technical problems of editing Shakespeare are very different from those of editing Victorian novels, I wish that we were now getting from the learned presses more generally useful editions of Hardy et al comparable to the Arden Shakespeare which, while textually sophisticated, also offers the other forms of aid that we need. (Some of the Norton Critical Editions - Ford and Monod's *Hard Times* and *Beak House*, for instance - admirably show how, even when lengthy novels are being edited, other virtues can be combined with textual ones.) Even such specialized editions as the Clarendon are intended for students of the novels, and not just for other textual editors' perusal.

Philip Collins

Philip Collins is professor of English at the University of Leicester.



## BOOKS

## Conserving genetic variety

**Conservation and Evolution**  
by O. H. Frankel and M. E. Soulé  
Cambridge University Press, £25.00  
and £7.95  
ISBN 0 521 23275 9 and 29889 X

In most respects, this book complements Soulé and Wilcox's *Conservation Biology: an evolutionary-ecological perspective* (Addison-Wesley, reviewed in *The Times*, March 6). The present title expands on material dealt with in two chapters of the previous book, this greater specialization possibly making the book less suitable for student use. However, it is highly relevant for practical conservationists and should be read by anyone involved in the field, especially if they are not yet aware of the potential genetic consequences of management practices.

An example of what may be done in ignorance is provided by an attempt to supplement the bobwhite quail population in the northern states of the United States to provide more birds for sportsmen. Birds from a genetically different population of the same species in the southern states were introduced to the north where they hybridized with their northern cousins. These hybrids survived the winter less well than

indigenous birds with the result that the northern bobwhite quail population actually declined after the introduction of birds from the south. Which conservationist would like to explain that to their employer, particularly if he is in the habit of carrying a gun?

Although titled *Conservation and Evolution*, the book is largely about the conservation of genetic variety in natural, captive and cultivated populations. Rather little space is given over to studies of genetic change or evolution *per se*. A short chapter discusses the process of extinction and comes to the conclusion that competition, predators and pathogens are rarely primary factors in the extinction of whole species, particularly those in continental biotas. British readers may be surprised to learn that animals may occasionally be made extinct by competition from "behaviourally more advanced" invaders invading an area. Apparently these are ecological analogues of indigenous animals (for instance the introduced grey squirrel is an analogue of our red squirrel) and not heterodox churchmen.

Another chapter discusses the mostly ecological topic of the design of nature reserves, based largely upon extrapolation from the theory of island biogeography. The topic is treated more extensively in the book by Soulé and Wilcox, but this chapter

goes wholesale for the equilibrium theory of island biogeography in much the same fashion. In recent history, most of the bird and mammal species to go extinct (53 out of 77) were island forms. The authors attribute this to the small average size of islands, but it would be interesting to know how far the high degree of endemism characteristic of islands was responsible for producing this statistic.

Two chapters introduce relevant aspects of the theory of population genetics, concentrating in particular on inbreeding depression and on the evolutionary consequences of heterozygosity (a measure of genetic variation). Other aspects of population genetics are treated rather briefly and will probably raise more questions than they answer in the minds of some readers. The maintenance of genetic variation in natural populations is given only three and a half pages, surely too little space considering the central importance of the topic. Similarly, there is almost no discussion of patterns of genetic diversity and polymorphism which occur in wild species on a geographic scale. This omission is compensated for to some extent by a very readable account of genetic resources in crop plants.

Crops must surely provide the most powerful argument, for those

who still need convincing, that it is economically important as well as ecologically desirable to conserve the world's natural genetic resources. The geographical spread of crop plants from their original centres of cultivation introduced plants such as wheat into areas where new characteristics were evolved. Wheat, originating in the Near East, evolved characteristics in the Far East which have recently contributed to the production of high-yielding hybrids. Ironically, the super-crops produced by breeding programmes based on genetically diverse sources of seed (land races) threaten to displace that diversity and replace it with a much more limited range of crop genotypes. Primitive cultivars are still grown in the Himalayan foothills where populations with resistance to major pests and diseases have only recently been found. The rapid advance of plantations of valuable genetic resources as have been found in crops and as will surely be needed in the future for tree breeding programmes.

Jonathan Silvertown

Jonathan Silvertown is lecturer in biology at the Open University.

## Systems signposts

**Systems Thinking, Systems Practice**  
by Peter B. Checkland  
Wiley, £11.95  
ISBN 0 471 27911 0

Those who have heard the term "systems" bandied about in their own discipline - systems management, engineering or geography, for example - and who reach for Professor Checkland's book for enlightenment will receive many surprises. Contrary to expectation there is no elaboration of the concepts they would recognize as systems concepts, boundaries, feedback and so on, nor an elaborate attempt to prescribe a standard use of the systems approach.

The first clue to the nature of the book, and the first surprise, is provided by its title: for "practice" is usually contrasted with "theory" with "thinking". To those familiar with the literature of systems thinking immediately that the author is not concerned with general systems theory, the putative mathematical theory of the behaviour of all systems, but with its distinctive interpretation of systems thinking which has been applied in numerous practical projects to considerable effect.

Characteristically a systems thinker "... will seek an account of the structure of reality and of the processes observed going on within it in terms of whole entities (systems) which he will define". In doing so he will not assume "... that the components of the whole are the same when examined singly as they are when they are playing their part in the whole, that the principles governing the assembly of components into the whole are themselves straightforward." Nor does the systems approach he advocates "... pretend that life is tidier than it is, whereas it is the intention to force a less tidy, more realistic form."

Any reader who applauds these sentiments might doubt that they inform any practical resolution of difficult problems especially as they of them will be "... uncertain problems which are manifest in a feeling of unease but which cannot be explicitly stated without its appearing to oversimplify the situation ...". In a powerful and incisive section, in which even the page bounds away cheerfully like a dog let off a leash, Professor Checkland explains the translation of these sentiments into practice. He also describes the projects in which it was developed and used, documenting what those who have read his book know to be substantial intellectual progress in the subject.

The relevance of this progress to readers primarily concerned with issues of organization, management or public policy will be clear and dramatic. Those interested in epistemology or social theory will be impressed by the considerable work made to place systems thinking on the methodology into the context of scientific thought and social theory: they may, however, be sceptical of the claim that "... the final outcome of the research is a substantive knowledge concerning the nature of what in everyday language is called 'social systems'."

Having placed his work in an intellectual tradition in which he feels free to write again for those other disciplines who have welcomed and instructively adapted his concepts and who are looking for a clear and sophisticated assessment of them and of the theory which informs them. In the meantime those who use the methodology he has created will have their work cut out following the many paths which are so enticingly signposted from the main road.

J. M. Ivison

John Hamwee is lecturer in systems in the faculty of technology at the Open University.

## Let loose on photosynthesis

**Photosynthesis: physical mechanisms and chemical patterns**  
by Roderick K. Clayton  
Cambridge University Press, £17.50  
ISBN 0 521 23300 8 and 29443 6

Anybody who has had to justify the proposed expenditure of a large sum of money on a complex instrument required mainly for research purposes knows that there is a certain ritual that must be followed. One of the key points is the inclusion of a few sentences explaining how the purchase will give a much needed boost to undergraduate teaching. The question of whether or not it would be practical, or indeed sensible, to lose a horde of enthusiastic but relatively unskilled undergraduates on such an instrument is by common consent ignored. Such problems, it is recognized, can be faced when the apparatus is safely delivered and installed.

I imagine that similar thoughts must have been going through the minds of the committee members of the International Union of Pure and Applied Biophysics (IUPAB) when they drew up the guidelines for the

authors of this series of monographs on selected areas of biophysics. If the information provided in the foreword of this particular volume, the fourth of the series, is to be believed, they were seeking an advanced text for undergraduate and graduate students that was at the same time suitable both for those commencing research and those already active in the field of photosynthesis. I prefer to believe that recognizing the expertise of Roderick Clayton as a research worker and a teacher, they were quite happy to leave the matter to his discretion.

The book itself is divided into four parts. The first provides an excellent introduction to photosynthesis as a whole. This is followed by much more detailed discussions of the role of pigment-protein complexes in the light-harvesting process and of the primary photochemical processes taking place at photosynthetic reaction centres. Finally, the story is rounded off with a brief discussion of current ideas on the mechanisms of photophosphorylation and carbon dioxide fixation. Information on the various physical and chemical principles required for the understanding of this material is provided in the form of

potted summaries, or digressions, at convenient points. These can be utilized, or skipped over, depending on the background of the reader. All of this works superbly. The various sections are well-written and furnished with many penetrating asides that both hold the reader's interest and serve to underline the originality of the author's analysis.

The end result is an excellent book that will be of great value to anybody contemplating, or already embarked upon, a research career in photosynthesis. I am much less convinced, however, of its value as an advanced teaching text. There is no doubt in my mind that any reasonably competent science graduate could follow the material provided without too much difficulty. The problem lies not in the treatment of the subject, which is a model of clarity, but in the nature of the information itself.

As Clayton himself points out, much of our understanding of the primary processes of photosynthesis is still fragmentary and represents an amalgam of facts, hints and speculations. Given that the bulk of the experimental evidence on which this understanding is based has been gathered from reaction centre pre-

parations isolated from their native membranes by various detergent treatments, this is perhaps hardly surprising. Situations parallel to this exist in many areas of molecular and cell biology and the question of presenting such material to students is a perennial one.

One obvious way around this problem is to treat the topic under discussion in such a way as to bring out its underlying principles rather than to try to force-feed students with the latest, often indigestible, observations. With this in mind, I would strongly advise anybody who faces the problem of teaching such material to general, albeit advanced, students in biophysics to skim through this book at the very least. I am not sure whether training at Sandhurst still includes the study of other people's battles but I am certain that Roderick Clayton is one seasoned campaigner from whose tactics many of us could still learn a lot.

W. Patrick Williams

W. Patrick Williams is senior lecturer in biophysics at Chelsea College, London.

## Electric circuits - theory and practice

**DC and AC Circuits, second edition**  
by Gordon Lancaster  
Oxford University Press, £20.00 and £9.95  
ISBN 0 19 851 849 9 and 848 X

It is unusual to find a book on electric circuits commencing with a chapter on electromagnetism. This is, however, perfectly justifiable, as Gordon Lancaster's very interesting book is aimed at undergraduates taking the first two years of a physics course as well as those on electronics courses. Indeed, it is highly desirable that electrical and electronic engineering students also do not lose sight of the physical concepts which form the basis of electrical circuit theory.

The basic circuit elements, laws and methods of circuit analysis are introduced in chapter two on "Direct-current circuits". This is followed by a chapter on "Alternating currents", which despite its title, starts with the application of direct current sources to RC and RL circuits. Although the expressions derived show the existence of both a transient and steady-state term, this point could have been given

more emphasis. The following sections of the chapter present a lucid graphical and mathematical treatment of alternating currents and voltages and developing the methods of circuit analysis, concluding with a good selection of problems to be solved by the student.

In the chapter on "Resonance", dealing with series and parallel circuits, the author rightly emphasizes the fact that the transient and steady-state terms are both components of the general solution of the relevant differential equations. The most important features of coupled resonant circuits are introduced in a way that provides the basic principles for the student who wishes to pursue the subject further. A bridging chapter on "Electromagnetism" is concerned with some of the electrical and magnetic properties of materials as they relate to the components of electrical circuits. "Pulse and transient" then introduces the Fourier series and the Fourier and Laplace transforms, this latter being dealt with in a concise way with a minimum of rigorous mathematics. Several applications to electric circuits are given and there is a useful selection of problems.

A chapter of some 70 pages on "Network analysis and synthesis" contains some very useful material, although the section on the noise figure of an amplifier does seem rather out of place. The general properties of the mathematical functions used to describe the response of networks are dealt with in a manner appropriate to the mathematical ability of students at this stage in their course. Formal mathematical arguments are well illustrated by appropriate practical examples; and the complex frequency plane is introduced, the method of obtaining the steady-state amplitude and phase shown. Impedance and frequency scaling are also covered, together with the synthesis of Foster and Cauer networks solved by the student.

"Transmission lines and waveguides", new to the second edition, provides a good introduction to distributed-parameter networks. The standard transmission lines develop the relationship between voltage and current throughout the book, those features of practical importance and the points at

which sensible approximations can be made.

The book concludes with two chapters on "Transducers" and "Instrumentation". I applaud the inclusion of a chapter on measuring techniques in a book on electric circuits, as students should be applying their theoretical knowledge to practical situations in the laboratory. The basic principles underlying the operation of measuring instruments are discussed, together with techniques for interference suppression, noise reduction and signal enhancement: in instrumentation systems.

Dr Lancaster's book can be highly recommended to students on physics and applied physics courses. His clear presentation makes the book very readable, despite the considerable amount of subject matter compressed into its 300 pages.

J. M. Ivison

J. M. Ivison is reader in the department of electrical and electronic engineering at Loughborough University of Technology.

## NOTICE BOARD



An exhibition called *Trades and Treasures* has opened at St Andrews University, and will run until September 12. Two early visitors were (right), Christine Hughes, recently elected Miss Fife, and her 92-year-old grandmother, Mrs Christian Murray, who found this decorative mangle to be in good working order. The implement is her senior by eight years.

## Grants

## Universities

**Aberdeen**  
*Biochemistry* - Dr Melvin £41,373 from the MRC for research into the use of monoclonal antibodies in the analysis of the antigenic variation and biochemistry of human respiratory syncytial virus; Dr Fothergill - £29,382 from the MRC for research into structure and activity of diphosphoglycerate mutase and monophosphoglycerate mutase in erythrocytes; Professor Dr David Bell, lecturer in French in the Department of French at Southampton, from April 1, 1982.

**Cardiff**  
*Chemistry* - Dr McQuillan - £19,232 from the SRC for research into the use of monoclonal antibodies in the analysis of the antigenic variation and biochemistry of human respiratory syncytial virus; Dr Fothergill - £29,382 from the MRC for research into structure and activity of diphosphoglycerate mutase and monophosphoglycerate mutase in erythrocytes; Professor Dr David Bell, lecturer in French in the Department of French at Southampton, from April 1, 1982.

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## Open University programmes August 15 to August 21

## Saturday August 15

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

## Sunday August 16

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

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**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

## Wednesday August 19

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

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**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

## Tuesday August 18

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

## Wednesday August 19

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

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**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

## Thursday August 20

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

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**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

**10.00** The Enlightenment. Haydn's London Symphony (A04); prog 2.

**10.00** Politics, power and administration. The Borderline Case (D336); prog 1.

## Monday August 17

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

## Tuesday August 18

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

## Wednesday August 19

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

## Thursday August 20

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).

## Friday August 21

**10.00** Mathematics foundation course. Electromagnetism. Complex Numbers (M101); M352; prog 1 (M101/24).



## Classified Advertisements

To place your advertisements write to:

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The Times Higher Education  
Supplement, P.O. Box 7, New  
Printing House Square, Gray's  
Inn Road, London WC1X 8EZ.  
Tel. 01-837 1234.

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## Universities

**CANBERRA COLLEGE OF ADVANCED EDUCATION**  
School of Environmental Design  
**Principal Lecturer**  
In Landscape Design

Ref. No. 81/2122—£435,048 per annum

Applications are invited for the position of Principal Lecturer in Landscape Design within the School of Environmental Design. The post will become vacant following the retirement of Mr. J. A. Forthright, foundation fellow in Landscape Design.

Candidates should combine academic qualifications and a wide experience in landscape design and in teaching at tertiary level. A familiarity with regional landscape characteristics and a willingness to contribute to the development of Australian landscape design theory and practice is desirable. Membership of an appropriate professional institute would be advantageous to an applicant who will be required to work in close cooperation with the Australian Institute of Landscape Architects.

The College is also considering the appointment of a College Fellow in the School of Environmental Design (Ref. No. 81/2122) per annum. Applicants for the Principal Lecturer post in Landscape Design with exceptional academic and professional experience at Associate Professor level or equivalent are eligible to be considered for appointment at the level of College Fellow and are invited to signify their interest in the higher appointment. Candidates who applied for the position of Principal Lecturer Ref. No. 81/2085 advertised in May will automatically be considered for the Principal Lecturer post with new applicants responding to this advertisement. Those who wish also to be considered for the Fellowship should now indicate their interest in the College.

The School of Environmental Design was established in 1974 and offers full-time professionally recognised undergraduate degree courses in architecture, industrial design, landscape design, building and quantity surveying, together with a post-graduate course in urban and regional planning. The School has 200 students and about a quarter of these are enrolled in the first year landscape design course. The Head of School has overall responsibility for teaching and research in the School and the appointment will be in charge of the development and retention of courses in landscape design.

Appointment with tenure or on contract for a fixed term may be negotiated. The College is prepared to negotiate an appointment on a permanent basis.

**General Information**

The present salary structure for the Principal Lecturer position is £435,048 per annum and to the position of College Fellow, £441,508 per annum. Assistance with housing will be provided for a person moving to Canberra to take up the appointment and provision will be made for superannuation and leave. Rates for the employee and dependants and assistance with removal costs will be paid.

Applicants from the Australian Public Service, who are permanent officers, may preserve their existing rights under the Public Service Award Act. Some prior service with an Australian University, College of Advanced Education or Australian Government Department or Authority may be recognised for purposes of leave and sick leave.

Applications including the names and addresses of three referees are required not later than 1 September 1981 and should be forwarded to the Registrar, Canberra College of Advanced Education, PO Box 1, Belconnen, ACT 2618. The College Council reserves the right to fill the post by invitation. A copy of the application should be sent to the Australian Education or Australian Government Department or Authority may be recognised for purposes of leave and sick leave.

Commonwealth Universities (App. 36 Gordon Square, London WC1H 0PF.

**THE UNIVERSITY OF NEW ENGLAND**  
Classics and Ancient History

**LECTURESHIP**  
(Permanent Tenure)

Applicants should be qualified both in Latin and in Ancient History. In the former field, an ability to use innovative methods of teaching Latin to beginning students is required. In the latter field, an interest in some aspects of the social and political history of Greece and Rome is desirable.

The Department offers full sequences of courses in Greek, Latin, Ancient History and Modern Greek and some courses in Classical Literature in Translation.

The appointment will be to the permanent staff but the University reserves the right to make the appointment probationary where it considers this appropriate.

Salary: A\$19,821-A\$28,037.  
Closing date: 11th September, 1981.  
Position No. 504.

Applications, including the names and addresses of three referees and stating the position number should be sent to the Staff Officer, the University of New England, Armidale, New South Wales, Australia, 2351, prior to the closing date.

ARMIDALE N.S.W. 2351 Australia

**THE PAPUA NEW GUINEA**  
University of Technology

**BUILDING OFFICER**

Applications are invited for the above mentioned position in the Registrar's Department.

Applicants should be appropriately qualified in the fields of building and/or civil engineering and should have minimum experience in all aspects of building work from development of plans through to completion of a project together with administrative and staff supervisory experience.

**COLAISTE BHANTARNA NA TROCAIRE,**  
AN CHARRAIG DHUBH, CO. ATHA CLIATH  
OUR LADY OF MERCY COLLEGE,  
CARYSPORT PARK, BLACKROCK,  
CO. DUBLIN

(A Recognised College of the National University of Ireland Colaiste Aithearna do chuid Oilseola na hÉireann)

Applications are invited for the following position:

**HEAD OF DEPARTMENT/  
LECTURER IN ENGLISH**

**Qualifications:**

A good postgraduate degree and appropriate teaching/academic experience.

Salary: IRC12,789 (<11—£16,893).

Applications (NO special forms supplied) together with Curriculum Vitae and the names of three referees should reach the President's Office before September 8th, 1981.

THESE

**UNIVERSITY OF STRATHCLYDE**

**PROFESSOR OF ENGINEERING DESIGN AND  
DRAWING**

**THE BABCOCK CHAIR OF ENGINEERING DESIGN**

Applications are invited for the Babcock Chair of Engineering Design and Leadership of the Department of Engineering Design and Drawing, which has become vacant due to the death of Professor Thomas Allan. The Department is one of four which constitutes the Mechanical Engineering Group in the University.

The post will be remunerated within the Professorial range for UK universities with USB benefit.

Application forms and further particulars (quoting 28/81) can be obtained from the Registrar, University of Strathclyde, 204 George Street, Glasgow G1 1XW, with whom applications must be lodged by 19 September 1981.

THESE

**UNIVERSITY OF NAIROBI**  
KENYA

Applications are invited for

**2 SENIOR LECTURESHIPS  
IN THE DEPARTMENT  
OF BOTANY**

In any of the following ecological disciplines: Terrestrial Ecology, Marine Ecology, Aquatic Ecology.

Applicants must have a PhD with considerable teaching and research experience. The appointees will be expected to participate in the teaching of both undergraduates and postgraduate courses and to develop research programmes in their areas of specialisation.

Salary scale: K2,200-4,200 p.a. (UK £1,198-£1,981). It is unlikely that the British Government will provide salary supplementation and associated benefits.

Applicants must have a PhD with considerable teaching and research experience. The appointees will be expected to participate in the teaching of both undergraduates and postgraduate courses and to develop research programmes in their areas of specialisation.

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Salary scale: K2,200-4,200 p.a. (UK £1,198-£1,981). It is unlikely that the British Government will provide salary supplementation and associated benefits.

**University of the West Indies**

Applications are invited for the post of:

**Lecturer/Assistant Lecturer  
in the Teaching of Spanish**

In the School of Education, teaching teachers and/or the ability to contribute to the development of the Philosophy of Education is desirable.

Salary scales (under review): Lecturer TT22,784-£32,782; Assistant Lecturer TT24,158-26,484 p.a. FSSU. Unfurnished accommodation or housing allowance, family passages, Study and Travel Grant.

Detailed applications (2 copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Secretary, University of the West Indies, St. Augustine, Trinidad.

Applicants resident in UK should also send 1 copy to the Committee for International Cooperation in Higher Education, The British Council, Higher Education Division, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

THESE

**CARDIFF**

**UNIVERSITY COLLEGE**

**TEMPORARY LECTURER**

**IN FOOD TECHNOLOGY**

**SCHOOL OF HOME**

Applications are invited for the above post. The successful candidate will be expected to contribute to the teaching of food technology courses, including Food Home Economics and Food Technology. The post is temporary and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, University of Cardiff, 100 Park Road, Cardiff CF1 1AT. Closing date: 11 September 1981.

Further details are available from the Registrar, University of Cardiff, 100 Park Road, Cardiff CF1 1AT. Closing date: 11 September 1981.

THESE

**NEW ZEALAND**

**UNIVERSITY OF OTAGO**

**LECTURESHIP IN PHYSICAL  
EDUCATION**

Applications are invited from suitably qualified persons for the position of Lecturer in Physical Education. The post is permanent and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, University of Otago, 100 Park Road, Otago, New Zealand. Closing date: 11 September 1981.

Further details are available from the Registrar, University of Otago, 100 Park Road, Otago, New Zealand. Closing date: 11 September 1981.

THESE

**NEW ZEALAND**

**UNIVERSITY OF AUCKLAND**

**LECTURESHIP IN PHYSICAL  
EDUCATION**

Applications are invited from suitably qualified persons for the position of Lecturer in Physical Education. The post is permanent and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, University of Auckland, 100 Park Road, Auckland, New Zealand. Closing date: 11 September 1981.

Further details are available from the Registrar, University of Auckland, 100 Park Road, Auckland, New Zealand. Closing date: 11 September 1981.

THESE

**ULSTER**

**THE NEW UNIVERSITY**

**SCHOOL OF BIOLOGICAL AND  
ENVIRONMENTAL STUDIES**

**TEMPORARY LECTURER IN**

Applications are invited for a full-time post of Temporary Lecturer in the School of Biological and Environmental Studies. The post is temporary and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, The New University, 100 Park Road, Belfast, Northern Ireland. Closing date: 11 September 1981.

Further details are available from the Registrar, The New University, 100 Park Road, Belfast, Northern Ireland. Closing date: 11 September 1981.

THESE

**University of Papua New Guinea**

Applications are invited for the post of:

**Senior Lecturer/Assistant Lecturer**

In the School of Education, teaching teachers and/or the ability to contribute to the development of the Philosophy of Education is desirable.

Salary scales (under review): Lecturer TT22,784-£32,782; Assistant Lecturer TT24,158-26,484 p.a. FSSU. Unfurnished accommodation or housing allowance, family passages, Study and Travel Grant.

Detailed applications (2 copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Secretary, University of the West Indies, St. Augustine, Trinidad.

Applicants resident in UK should also send 1 copy to the Committee for International Cooperation in Higher Education, The British Council, Higher Education Division, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

THESE

**CARDIFF**

**UNIVERSITY COLLEGE**

**TEMPORARY LECTURER**

**IN FOOD TECHNOLOGY**

**SCHOOL OF HOME**

Applications are invited for the above post. The successful candidate will be expected to contribute to the teaching of food technology courses, including Food Home Economics and Food Technology. The post is temporary and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, University of Cardiff, 100 Park Road, Cardiff CF1 1AT. Closing date: 11 September 1981.

Further details are available from the Registrar, University of Cardiff, 100 Park Road, Cardiff CF1 1AT. Closing date: 11 September 1981.

THESE

**NEW ZEALAND**

**UNIVERSITY OF AUCKLAND**

**LECTURESHIP IN PHYSICAL  
EDUCATION**

Applications are invited from suitably qualified persons for the position of Lecturer in Physical Education. The post is permanent and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, University of Auckland, 100 Park Road, Auckland, New Zealand. Closing date: 11 September 1981.

Further details are available from the Registrar, University of Auckland, 100 Park Road, Auckland, New Zealand. Closing date: 11 September 1981.

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Further details are available from the Registrar, University of Auckland, 100 Park Road, Auckland, New Zealand. Closing date: 11 September 1981.

THESE

**ULSTER**

**THE NEW UNIVERSITY**

**SCHOOL OF BIOLOGICAL AND  
ENVIRONMENTAL STUDIES**

**TEMPORARY LECTURER IN**

Applications are invited for a full-time post of Temporary Lecturer in the School of Biological and Environmental Studies. The post is temporary and will be for a period of 12 months, commencing 1 October 1981.

Applicants (two copies), including a curriculum vitae and three referees, should be sent as soon as possible to the Registrar, The New University, 100 Park Road, Belfast, Northern Ireland. Closing date: 11 September 1981.

Further details are available from the Registrar, The New University, 100 Park Road, Belfast, Northern Ireland. Closing date: 11 September 1981.

THESE

## Universities continued

**DUNDEE**

**UNIVERSITY OF**

**Department of Mechanical Engineering**

**RESEARCH ASSISTANT**

There is a vacancy for a Research Assistant to work with Professor J. R. Barr on a study of some features of the process of rotor-stator flow involving non-linearities. The project will be carried out in co-operation with Rolls-Royce Limited, Aero Division, Bristol, and the appointment is available for three years.

Applicants should have a good Honours degree in Engineering. The successful applicant will be expected to contribute to the development of the research project.

Salary within the range 18,000-22,000 p.a. plus pension dependent on qualifications and experience.

Further particulars from Personal Office, University of Dundee, Dundee, Scotland DD1 1TA. Please quote ref. 81/459/21E.

THESE

**ESSEX**

**UNIVERSITY OF**

**Department of Computer Science**

**TEMPORARY LECTURER**

Applications are invited for a Temporary Lectureship (tenable for one year from October 1st) in the Department of Computer Science. The successful candidate will be expected to contribute to the teaching of computer science courses and to carry out research in the field of artificial intelligence.

Applicants should have a PhD in Computer Science or a related field. The successful candidate will be expected to contribute to the teaching of computer science courses and to carry out research in the field of artificial intelligence.

Salary: £18,000-£22,000 p.a. plus pension dependent on qualifications and experience.

Further particulars from Personal Office, University of Essex, Wivenhoe Park, Saffron Walden, Essex CB10 3RU. Please quote ref. 81/459/21E.

THESE

**LONDON**

**UNIVERSITY OF LONDON**

**GOLDSMITH COLLEGE**

**School of Humanities and Performing Arts**

**Drama Department**

The Drama Department requires a Lecturer in Drama to teach the Drama course and to carry out research in the field of drama. The successful candidate will be expected to contribute to the teaching of drama courses and to carry out research in the field of drama.

Applicants should have a PhD in Drama or a related field. The successful candidate will be expected to contribute to the teaching of drama courses and to carry out research in the field of drama.

Salary: £18,000-£22,000 p.a. plus pension dependent on qualifications and experience.

Further particulars from Personal Office, University of London, Goldsmith College, 100 Broadwater Green, London E9 6BU. Please quote ref. 81/459/21E.

THESE

**CAMBRIDGE**

**FITZWILLIAM COLLEGE**

**ASSISTANT**

**IN THE DEPARTMENT OF**

**CLASSICS**

Applications are invited for the position of Assistant in the Department of Classics. The successful candidate will be expected to contribute to the teaching of classics courses and to carry out research in the field of classics.

Applicants should have a PhD in Classics or a related field. The successful candidate will be expected to contribute to the teaching of classics courses and to carry out research in the field of classics.

Salary: £18,000-£22,000 p.a. plus pension dependent on qualifications and experience.

Further particulars from Personal Office, University of Cambridge, Fitzwilliam College, 100 Broadwater Green, Cambridge CB1 0BU. Please quote ref. 81/459/21E.

THESE

**CITY OF LONDON POLYTECHNIC**

**Head of a New Department**

**Grade VI — £15,804-£17,349**

A new Department is being formed by the merging of two Departments in the Polytechnic — Department of Management Science and Department of Mathematics and Statistics.

The new Head of Department, who will be appointed as soon as possible, will be responsible for teaching and research programmes in Computing, Management Science, Mathematics and Statistics.

Applicants with evidence of powers of academic leadership and experience of the applications of any of the Departmental disciplines mentioned above as invited to apply for this new and challenging post.

For further particulars and an application form please write, quoting reference 81/82, to the Staff Records Officer, City of London Polytechnic, 117 Houndsditch, London EC3A 7BU.

THESE

**PAISLEY COLLEGE**

Applications are invited for the post of

**PROFESSOR/HEAD OF DEPARTMENT  
OF CIVIL ENGINEERING**

The post will become vacant in September, 1981 following the appointment of the present Head of Department to a Chair at the University of Strathclyde.

The Department comprises a teaching staff of 24 and offers CNAAs degree and honours degree courses in Civil Engineering.

Candidates should be competent to guide the development of research and teaching within the Department and should have appropriate research, teaching and professional experience.

Further particulars, including details of the work undertaken by the Department, and application forms may be obtained from the Registrar, Paisley College of Technology, High Street, Paisley PA1 2BE. Closing date: 31st August 1981.



## Administration

BRIGHTON  
POLYTECHNICPERSONAL  
ASSISTANT  
FOR THE DIRECTOR

CB190 to CB228

This post provides an opportunity for enterprise and initiative. It is ideally suited for someone with administrative experience and knowledge of Higher Education. A good degree or relevant professional qualifications are required.

Further details and application forms from Deputy Head of Personnel, Brighton Polytechnic, Moulsecomb, Brighton, BN2 4GJ. Closing date 11 September 1981.

H11

## Colleges of Art

SURREY  
COUNTY COUNCIL  
WEST SURREY COLLEGE OF  
ART AND DESIGNTemporary Lecturer I in  
Foundation StudiesThis temporary full-time  
appointment is for one year  
commencing 1st September  
1981.

Applications are invited from suitably qualified and experienced persons to contribute to the course planning and to undertake the teaching of visual communication, photography and print design under the direction of the Course Leader in Foundation Studies.

For further details and application forms please apply to the Course Leader, West Surrey College of Art and Design, Farnham Road, Farnham, Surrey, GU10 3AH.

## Overseas

UNIVERSITY OF CAPE TOWN

SENIOR LECTURER IN  
LECTURER IN EDUCATION

Applications are invited for three vacancies in the Faculty of Education. The successful candidates will be appointed to the posts of Senior Lecturer in Education, Lecturer in Education, and Lecturer in Education. The successful candidates will be appointed to the posts of Senior Lecturer in Education, Lecturer in Education, and Lecturer in Education. The successful candidates will be appointed to the posts of Senior Lecturer in Education, Lecturer in Education, and Lecturer in Education.

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H12

CANADA  
ATHABASCA UNIVERSITY  
ADMINISTRATIVE STUDIES

Athabasca University specializes in distance education involving a variety of media. As Canada's first open university, Athabasca University serves adult students who cannot or do not wish to attend a conventional university.

The university has been expanding its programmes, and expects to fill a number of positions for the academic year 1981-82.

Applications are now being accepted in the following areas:

- Public Administration
- Administrative/Management/Industrial Relations
- Financial/Operations Management
- Marketing/Administrative Policy
- Accounting/Management Information Systems
- Organizational Behaviour

Responsibilities: To participate as part of a team in the planning, development, production and delivery of home-study degree credit courses in the B. Admin. programme.

Qualifications: Ph.D. or D.B.A. preferred; consideration will be given to candidates possessing an M.B.A. and related experience, and those holding professional accounting designations (C.A., etc.). Experience in adult or continuing education programmes would be an asset.

Salary and Rank: Dependent upon qualifications and experience:

| 1981/82 Minimum:    | (Canadian Dollars) |
|---------------------|--------------------|
| Assistant Professor | \$26,100           |
| Associate Professor | \$33,100           |
| Professor           | \$41,700           |

Athabasca University is scheduled to relocate to the town of Athabasca (about 140 kilometres North of Edmonton) in 1984 and all positions are subject to relocation at that time.

Qualified Applicants are invited to forward a current vitae, samples of their written work and are asked to have at least three referees forward letters of reference directly to the University. All materials should be received by August 30, 1981 to ensure consideration.

During the current Canadian postal dispute, applicants may forward their application materials to:

Athabasca University, c/o Alberta House

37 Hill Street, London, W1X 7F0, England

Athabasca University, c/o Government of Alberta Office

Room 703, 510 West 6th Street, Los Angeles, California 90014, U.S.A.

Starting dates are negotiable, but preference will be given to candidates willing to assume positions before January, 1982. Several opportunities may also be available to particularly qualified candidates on sabbatical leave for one year. Persons interested in such term appointment should clearly specify their interest in sabbatical term appointments.

Athabasca  
University

MITCHELL COLLEGE OF ADVANCED EDUCATION  
AUSTRALIA

Applications are invited for the positions of

Senior Lecturer/Lecturer  
in Marketing  
(2 Positions)

Mitchell College, situated at Bathurst, NSW, 2191km west of Sydney, is a multi-disciplinary college of advanced education. The courses in which the applicants would teach include the Bachelor of Business, with a full major in Marketing, and the Graduate Diploma in Management Studies. In 1982 the College will introduce a Graduate Diploma in Marketing by external study.

The appointees will be expected to contribute to the teaching of Marketing to internal and external students, mainly in fields such as advanced marketing research, applied quantitative analysis, buyer behaviour and strategic marketing planning.

An appointee at senior lecturer level would also be expected to undertake some responsibility for course management such as that related to the forthcoming Graduate Diploma in Marketing.

Applicants should have appropriate academic qualifications and practical experience in Marketing.

SALARY will depend on qualifications and experience:—  
Senior Lecturer I: \$42,000 to \$43,000 per annum  
Senior Lecturer II: \$43,000 to \$44,000 per annum  
Lecturer I: \$42,000 to \$43,000 per annum  
Lecturer II: \$43,000 to \$44,000 per annum  
Lecturer III: \$44,000 to \$45,000 per annum

CONDITIONS of employment include an attractive superannuation scheme and a specially negotiated bank finance arrangement for building or buying a house. Fees for the appointee and family to Bathurst and reasonable removal expenses will be paid.

APPLICATIONS setting out personal data, telephone number, qualifications and experience accompanied by the names and addresses of three referees and a recent photograph of the applicant should be sent to:

The Registrar (Staff Appointments)  
MITCHELL COLLEGE OF ADVANCED EDUCATION  
Bathurst, NSW 2191, Australia.

Applications close September 18th, 1981.

H12

UNIVERSITY OF CAPE TOWN  
Research Fellowships

The University of Cape Town invites applications for Post-Doctoral Fellowships to be held at the University of Cape Town.

The Fellowships are tenable for 12 months and the stipend attached to the Fellowship is R10 000. Successful candidates from abroad will receive an additional travel grant up to a maximum of R1 500. There are no restrictions on any particular field of research.

Applications must include full details of the applicant's research programme in addition to a full curriculum vitae and the names of two referees to whom the University may refer. The policy of the University is not to discriminate in the appointment of staff on the grounds of sex, race, or national origin. The dates at which the successful candidates will be expected to take up their duties are flexible and can be arranged to suit the special circumstances of the candidate.

Closing date for the receipt of applications is 30 September 1981. Applications (including cv, number 577) should be addressed to the Chief Administrative Officer, Research Administration, University of Cape Town, Private Bag, Rondebosch, 7700, South Africa.

H12

## Yale University

The Department of Classics has been authorized to seek applications for a new tenured position at the Associate Professor level. The candidate should be qualified to research on and teach Greek syntax and stylistics, and Greek prose literature; evidence of distinction in both research and teaching would be required. The duties of the position would begin not earlier than July 1, 1982.

Applicants, including a vita and the names of at least four referees, should be addressed to:

George Gould  
Box 1967 Yale Station, New Haven,  
Connecticut 06520, USA

they should be mailed by October 1, 1981.

Yale University is an equal opportunity/affirmative  
action employer.

H12

## General Vacancies

CONFEDERATION OF HEALTH SERVICE EMPLOYEES  
TUTOR

Applications are invited for the post of Education and Training Assistant in the extremely busy Education Department of COHSE.

Candidates should have experience in preparing and designing course materials in a wide range of subjects. Previous teaching experience and a trade union background would be an advantage.

This demanding post (based at the Banstead Head Office) involves extensive travel, lecturing to groups of Branch Officers throughout the country. Interviewed applicants will be invited to present examples of their own visual aid materials.

The salary for the post is on the scale £7289, rising by three annual increments to £8070, per annum, plus £528 London Weighting Allowance.

For further particulars and application forms please write to the General Secretary, COHSE, Elm House, High Street, Banstead, Surrey, SM7 2JH. Completed applications should be returned no later than 11th September, 1981.

H12

UKCOSA  
a national  
independent  
organisation  
ASSISTANT  
EXECUTIVE SECRETARY

to help develop its work in the field of overseas student affairs as part of new funding from the British Council. The successful applicant, probably a graduate, will join a small team providing a range of services to national and regional organizations, educational institutions and student unions, and support for UKCOSA's committees. Relevant administrative experience or work with students preferable. Experience overseas may be an advantage.

Salary £4702-6025 (under review).  
Details and application form from the Executive Secretary, UKCOSA, 80 Wimburn Road, London W2 0PG. Tel: 01-299 9289/9. Completed application forms should be returned by 14th September.

THE UNITED KINGDOM COUNCIL FOR OVERSEAS STUDENT AFFAIRS

H12

## Grants

SOUTH AFRICA  
RHODES UNIVERSITY

Applications are invited for the post of  
H. A. MOLLATH, Professor  
IN ENGLISH - SECOND  
LANGUAGE

The successful applicant's interest and experience will be in the field of English and development of English in Africa (including primary and secondary education) and also in post-graduate research.

The initial salary will be based on qualifications and experience in the field of English and development of English in Africa (including primary and secondary education) and also in post-graduate research.

A Senior Lectureship (Salary scale R14 070 to R16 000) is available in the field of English and development of English in Africa (including primary and secondary education) and also in post-graduate research.

Successful candidates will be offered places in Rhodes University.

Applications, together with a full curriculum vitae, should be sent to the Registrar, Rhodes University, Room 16, University of London, 100 Brook Street, London WC1E 7BU.

Applications will be restricted to candidates with either a degree at high grade in non-science subjects or a degree in science subjects at high grade.

Successful candidates will be offered places in Rhodes University.

Applications, together with a full curriculum vitae, should be sent to the Registrar, Rhodes University, Room 16, University of London, 100 Brook Street, London WC1E 7BU.

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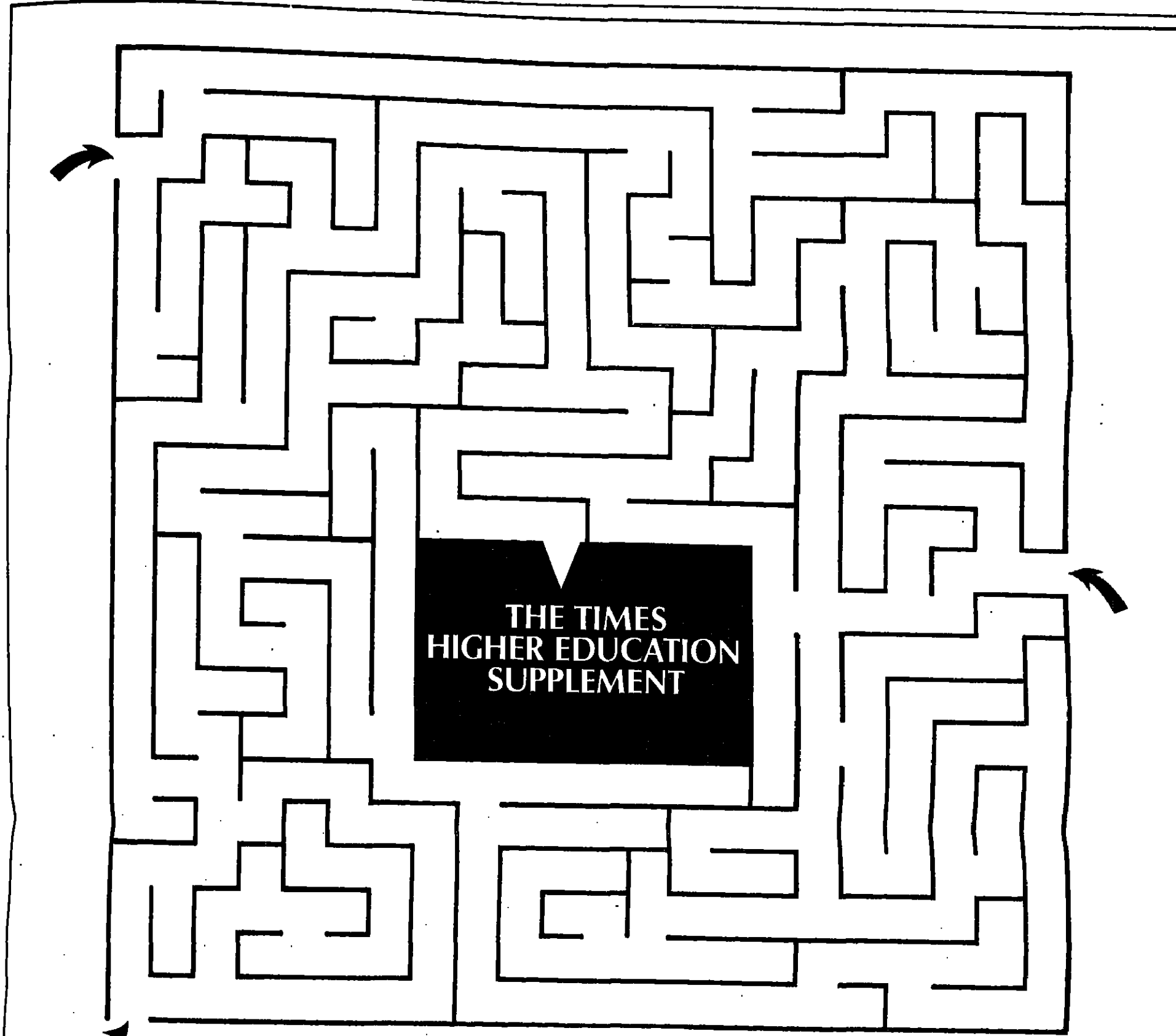
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(H41)



# Don's diary

## Saturday

All the Border towns have a summer festival and ours in Peebles is the Beltane. Today is the culmination of the week and in the morning the Beltane Queen, a primary school girl, is crowned on the steps of the Parish Kirk in a ritual of formidable complexity. When my children were of primary school age we were always heavily involved but I now feel sufficiently detached to spend the afternoon watching the professional foot races which bring together, 'the Cream of Scottish pedestrians'.

## Sunday

We are playing a friendly game at home this afternoon so it is an amble down to the cricket field after lunch in the garden and our rather weak Sunday side faces the talents of Dalgety Bay in hot sunshine. Not surprisingly we get beaten.

## Monday

Conscious of the impending end of my study leave (due back in the office on Wednesday) I complete the articles on which I have been working and tidy them into shape that my secretary will find easier to type up. Finish a sad piece which relates to the slow decline in my personal convictions of the adequacy of the average comprehensive school for able children. Although my elder two have followed me to Cambridge from our local comp they have undoubtedly had to do more than I did from a grammar school and I am concerned that our youngest, entering the third year in August, is already having fewer opportunities in school than did his siblings.

## Tuesday

The final day of my study leave for this year. "Have I done all I intended to?" I ask myself early in the morning. Yield to temptation and play 18 holes of golf with my regular partner. Fortunately he's off form and I'm on to a satisfying win which permits me to pocket 40p. Write my regular country piece for *The Guardian* to phone through in the evening before, duly washed and polished. I accompany wife to the high school prize-giving. Our youngest is getting a prize as second boy in his year so my track record of having been at this occasion every year for nine years is preserved.

## Science today

## Big brothers got it wrong about 1984



Robin McKie

## Wednesday

Back to the grind. Reflect as I drive the 25 miles into Edinburgh how expensive it is simply to get to work now and how much in travelling costs a month's study leave has saved me. Nice to see all my regional colleagues again and we lunch in style with a bottle of wine in the new town's latest trendy wine and salad place.

## Thursday

A Walton Hall delegation is up from the OU's nerve centre to introduce us to the new First Year Student Handbook which will be sent to all new students joining the system in 1982. The delegation is visibly shocked at the hostility of our reception for this document, half of which is couched in the terms of psycho-therapeutic counselling for inadequates. We repeat the point already made by the Arts Faculty Board that we counsel people in an academic context only and are not interested in using material which might land us in the torrid Sunday idiot sheets. The delegation leaves early to catch a shuttle flight back to the softer south.

## Friday

Major discussion today on the UGC's verdicts on the rank order of the conventional universities. Since we are funded by the DES we do not figure in this said catalogue but that does not mean we feel particularly secure since if the DES make a blanket reduction in funding we are bound to feel the same pressures. There is some comfort in the successful track record of the distance teaching concept we have pioneered and in the very satisfactory ratio of students to regional staff. I compute mine as 1184:1 but that ignores the invaluable contribution of our part-time staff. It also ignores the perceptive comments of Lord Perry, our last vice-chancellor whose valetudinary observations had us all twitching but whose paper was carefully shelved by senate.

Pack the car for the long drive down to Cambridge tonight. Tomorrow, only 21 years after her ancestor father, our daughter will graduate through the ancient rituals in the senate house.

Colin Luckhurst

The author is a senior counsellor with The Open University's scottish region.

What is the significance of E. P. Thompson's disinvitation to deliver the Dimbleby Lecture? (Let no one, by the way, doubt that the Director General did, as *The Times* reported, veto an invitation that had effectively been made and passed all the relevant procedures. He did so in the face of strong opposition from fellow governors and BBC staff.)

It is, I must be admitted, poignant that it should have happened to Thompson, whose recent writings have focussed on the growing threats to our cherished liberties, from the development of the Security State to the attempts to erode the jury system. Indeed, the first essay of his *Writing by Candlelight* on "The Segregation of Dissent" (dating from 1961) discussed the ways in which the media "determine, to great degree, the questions which it is possible to have views about, and the form in which these questions arise." "What is noxious to authority today," he wrote there, "is not the profession of unorthodox principles but their earnest and effective advocacy."

I myself learned of the affair from an old friend, recently returned from several years in Africa. He was shocked to see what a state British liberties were in. Correspondents to *The Times* have reacted similarly, allegedly quoting the words ("I detest what you say but will defend to the death your right to say it"), claiming that teaching and research in Britain are constrained "by the whims of those in political authority" and comparing Thompson with Soviet dissidents.

Yet all these reactions miss the meaning of the affair. Arguably, both it and its aftermath give ample evidence of liberty and pluralism in action, both inside and outside the BBC. After all, Thompson was invited and encouraged by BBC staff, up to a very high level. Once disinclined to a very public fuss was made, not least in the BBC house organ, *The Listener*, as well as in *The Times*, where Jeremy Isaacs offered Thompson Channel Four air time.

Plainly, other platforms (like last week's *Sunday Times*) are widely available, some just because of the affair itself. As for the grotesque comparison with Soviet dissidents, Thompson himself dealt with it admirably in *The Times*, pointing out the utter disanalogy between his situation and that of Rudolf Bittok, sentenced to seven and a half years in prison by the Prague city court for his activities in defence of civil rights. Any such equation, even by using the same unhelpful word "dissident" is a mockery of Sheharazad, Sabata and all the other inhabitants of Gulag and the psychiatric hospitals, not to mention all those Czech intellectuals who survive by stoking boilers and driving trams.

The affair, moreover, is probably better evidence for the cock-up than for the conspiracy theory of history. How else explain the embarrassing conflict between the chairman of governors' admission that the invitation had been withdrawn and a BBC spokesman's later denial? It is also evidence for the role of the personal

## The lecturer who lost his licence



Steven Lukes

element in the present directorship of the BBC. I well recall Sir Ian Trethowan at the Oxford Teach-In on Vietnam in 1965, fuming in the audience at what he saw as the left-wing character of the occasion, and then producing an outrageously one-sided programme about it, about which public protests were made. All the evidence suggests that in this affair he has made a personal and most unwise decision, which he will probably feel committed to defending whatever the opposition. At all events, Thompson and the views he would have expressed are not being stifled as a result.

What then does it mean? In part, it is symptomatic of real and growing dangers not from, but for the BBC. First, it is not accidental that the Dimbleby Lecture is scheduled to be broadcast just when the licence fee negotiations are in full spate. The licence fee, the bedrock of the BBC's independence, is being fast eroded by inflation and, given the temperance of the Prime Minister, the risk of causing offence might well seem to be very high. And this has wider implications, reaching throughout the vast bureaucratic apparatus of the BBC, instilling, especially in middle management, reflexes of caution and anxiety. Already, BBC salaries have fallen 20 per cent behind the commercial companies, and Channel Four will cause further draining away of talent and dynamism. If the injections of funding are not stepped up, existing jobs and activities come under threat. Moreover, the Government's attacks on the External Services show how little regard it has for BBC interests - and this in an area where rights and liberties really are at stake. For those in search of a cause for the autumn, I suggest "Save the Somali Service". The destruction of these services is wanton and irreparable.

note. "I would like to live to see my words", writes Nobel prize-winning Professor Abdus Salam, of Imperial College, London, "but 20 years ago, I am positive, I was not developed, and I am now, as a relatively undeveloped, and I am desperately poor, as today. And despite the fact that we know the world has enough resources - technical, scientific and material - to eliminate poverty, disease and death, for the whole human race."

However the last word should surely go to another Nobel prizewinner, Professor Sidor Rabi, of Columbia University, and provides a fitting footnote to any collection of predictions made by scientists in general that they have not been predicting the future. That is done by the H. G. Wells and Aldous Huxleys. The scientists may have 'future in his bones' as Charles Snow puts it, but also in the tip of his tongue.

"Science may be the engine of social, economic, military, industrial and intellectual change, but the scientist is not in the driver's seat. He continues the metaphor, with the war, he hardly raised his head above the bonnet."

But it also illustrates a deeper danger that lies within the BBC itself: namely its own ethos, the self-understanding which it seeks, with greater or lesser success, to instill into all those who work for and with it. I have before me an internal BBC document, *News and Current Affairs Index* (October 1980), which asserts that "The BBC's journalism is required, to be editorially independent, objective, impartial and fair." So BBC staff are instructed that in current affairs programmes "subjective comments should not be made. Any views implied, on any controversial issue, are the responsibility of the editorial team." On "fairness", the Index is especially interesting on the standards governing contributors to programmes: these are: (i) fairness in giving access to the medium to those whose views seem likely to command a substantial degree of support; (ii) fairness in giving access to those who may not have significant support but who may have a significant idea; (iii) fairness in choosing and exploring subjects which cover the whole spectrum of potential public interest. And there follows an exposition of the famed BBC concept of "balance" within and across programmes.

Yet how are these admirable principles interpreted in practice? By continual drift to the "moderate" centre and aversion to "extremes" of any kind, (a favoured BBC tradition). Compare the BBC's unimpressive celebration of the Social Democratic Party with its incapacity to come to terms with monetarism. Estimates are to be fled in all cases; the text and flashing eyes are vividly present to every well-trained BBC employee's imagination and instantly recognizable by him. This is not forced by programme review sessions where those who are too "radical" (the Director General's code-word for left-wing) are criticized, and if they persist, see their prospects dim. The cumulative effect of dangerous because it is understood that any programme that makes sense of a social and political world whose interpretation is so much a matter of deep and growing controversy.

But, you may ask, are large-scale ever applied? I must admit the list of Dimbleby lectures is a date makes me wonder: let's Annan, Denning, Gollin, Hailsham and Rutherford (who was an outspoken apologist for the nuclear industry). Sir Robert Kiln, How Whieldon, Roy Jenkins and Jack Jones. As the BBC chairman revealingly said of Thompson: "I'm not sure that 'unsuitable' is quite the right word. It is a fairly prescriptive kind of lecture and you have to be sure it is the right kind of person."

If, however, you think that is a right kind of person, I urge you to write to the director general and tell him so. According to the Index, "dealing with correspondence openly and satisfactorily is part of the BBC's accountability to the public as well as common courtesy." I shall certainly be sending him a copy of this column. I will let you know his reply is.

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## LETTERS TO THE EDITOR

### Career structure in the universities

Sir, - Douglas Bethlehem's article (*THES*, August 7) is a depressingly typical example of the current flood of long-winded and disingenuous academic protests against tempering with the career structure within universities. I would like to make a number of points:-

1. The "long searching scrutiny" which Douglas Bethlehem alleges takes place before academics are appointed to their posts usually occurs only in theory, especially nowadays when there are often over 100 applicants for each vacancy. In the USA, where appointment procedures are considerably more elaborate than in this country, the degree to which non-scholastic factors enter into appointments has been documented by C. S. Lewis in *Scaling the Ivory Tower*, characteristically in this country, the whole business is wrapped up in "confidentiality", but it would be perverse to suggest that because our system is more secretive, it is necessarily more just.

In the arts subjects at least most academics receive their first appointment before completing their doctorates and before gaining much teaching experience, so I am not quite clear what Douglas Bethlehem thinks there is to scrutinize other than the confidential but - one suspects - frequently biased guess-work of academic referees.

2. A considerable proportion of British academics complete no substantial piece of research subsequent to their PhDs, and rumour has it that a significant number barely bother to keep abreast of current

publications in their pretended specialist area. The fact that one or two great geniuses might take a couple of decades to mature some astonishing new intellectual breakthrough hardly justifies the existence within the system of all the academics who interpret the lack of pressure to publish as an invitation to produce nothing at all.

3. The benefits of tenure are enjoyed at the expense of a number of young scholars - who are actually better formally qualified than many tenured academics. When I had my first interview for a university post in 1972, I already had a PhD and my first, rather lengthy, article was on the point of publication. It was seven years and over 300 further job applications before I obtained my second interview for a university post, by which time I had published ten more articles and a substantial monograph - not a rehash of my PhD thesis - and had had a second monograph accepted for publication.

Both the articles and the monographs would doubtless have been very much better if I had had a steady income to live on while writing them, and realistic means of financing my research, but even so they represented a more substantial contribution to scholarship than many tenured academics achieve in the first seven - or fourteen - years of their appointments.

4. Many of the people interviewing job candidates in these difficult times are the very people who obtained their own posts during the

free-for-all expansion of the 1960s, when it was really quite easy to get an appointment. Unless we are to pretend that there is less talent around now, to fit in with there being fewer jobs, we can assume that their jobs than the people they are interviewing for vacancies.

Even if we take it for granted that a man distinguished in his own field somehow has the ability - despite lack of training for this specialized work - to assess promise in younger scholars, there is really no reason to suppose that men not particularly distinguished in their own fields have such people are now conducting the "long searching scrutiny" Douglas Bethlehem refers to.

Just because the Government is ill-informed, wrong-headed and incompetent in its policies does not mean that the present crisis is one entirely invented by the Government. The tragedy of Britain's universities today is that the blunderings of the Thatcher regime seem to be strengthening the resistance of academics to long overdue changes. What is needed is for the idiot radicalism of our government to be countered by a more constructive radicalism on the part of the universities. Instead academics are about to see the penalty for its abuse of its privileges, and for its smugness and self-delusion.

Yours faithfully,  
A. D. HARVEY,  
26 Somerville Road,  
London N4.

### Public sector's core

Sir, - Your correspondents have helpfully drawn attention to the distinctive role of the public sector of higher education and to the importance in the national interest of ensuring that the future arrangements for funding and control are such as to encourage and facilitate this contribution. In referring generally to the public sector, however, I must always, failed to distinguish between the 40 or so institutions which carry the main weight of responsibility for national and regional provision and the remaining 360 or so institutions which have a more local significance or which are small in size.

Among this core group of institutions the 29 polytechnics are of particular significance. They have developed energetically to the charge placed upon them by government to develop particularly close and intensive relationships with industry, commerce and the professions. This achievement has been secured despite the need to operate within a largely negative control at both the local and the national level - control which has inhibited response to national and regional need and has made very difficult the most efficient use of scarce resources.

In the national interest it is now essential that the polytechnics be put into a position in which their work can be thought-through, planned and financed on a national basis, following the example set out in Model B of the Green Paper. This could ensure that the polytechnics have the opportunity to excel further in the role which they have established and to be fully competitive with the universities in responding to the needs of the country. Likewise, through the provision of corporate status and the greater responsibility to manage their affairs that this would provide, the polytechnics would be able to operate closely with the universities not least in the development of continuing education and the con-

tribution it will need to make to the country's training and re-training needs for man-power.

Planning for effective cooperation between the polytechnics and the universities could also become possible at the national level, given a central body for the public sector drawn from leading figures in the private and public spheres of the economy and from representatives of the major institutions and the universities. Such a body would have the institutions and it would be competent to work closely and effectively with the University Grants Committee to the general benefit of higher education.

Your correspondents' contribution is also deficient in the sense that it implies that the local as opposed to the national contribution of the polytechnics is a function of local government control, a misconception which is evident in the CLBA proposals. The local and regional contribution of the polytechnics is a direct result of the response of institutions themselves to the needs of industry, commerce and the professions with their spheres of influence. It is not a function of local government control.

Indeed, removing that control and some of the constraints which it provides would enable the polytechnics to strengthen their local contribution to the benefit of their regions generally, including local governments. Moreover, the continued presence on governing bodies of local authority nominees drawn from the regions at large, sitting with regional representatives of other sections of the public sector of the economy and with representatives from the private sector would provide full opportunity to influence the affairs of the polytechnics in a way that would be constructive and supportive to local needs.

WILLIAM BIRCH,  
Director  
Bristol Polytechnic.

### Confidential referees

Sir, - This year, for the first time, a disturbing practice seems to have been introduced by some local authorities and schools whereby copies of confidential references have been returned, with other papers, to first teaching appointments. As quite a number of cases have occurred among our own students, I fear the practice may be widespread. Confidential references are clearly marked 'confidential'. If we are to continue to give frank and helpfully detailed

comments about candidates, we need the assurance that this confidentiality will be observed meticulously and, on recent evidence, this has been disregarded.

Yours faithfully,  
J. GORDON LAWRENCE  
University of Warwick.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

### Graduate employment

Sir, - Your leading article (*THES*, July 31) seeks to disprove the assumption that the ease with which graduates find jobs is a good criterion for preferring one university to another. However, the article itself makes a number of unproven assumptions.

The title ("Counting jobs isn't everything") assumes that graduate employment has been proposed as a sole criterion for judging universities. Neither Salford nor any other uni- versity has claimed this. All that has been suggested is that it is a relevant criterion that the University Grants Committee appears to have overlooked.

The article claims that 'employment records reflect different subject balances within universities. Of course they do. However, the detailed statistics also show significant differences between universities for graduates in the same subjects. For example, the unemployment rate for Aston is well below the national average in nearly every subject.'

It is stated that high employability rates from some universities may reflect a lower than average expectation about jobs. This is another way of saying that graduates of these universities exercise better judgment than most. The writer illustrates this point by comparing the likely expectations of a student from a department with "very high academic standards and a reputation for excellence in research" with those of a student from a department that "mostly offers sandwich courses in strictly vocational subjects". He thus appears to assume that sandwich courses have low academic standards and that departments offering them cannot do excellent research. He states that a typical graduate of the former department may be of higher quality than a graduate of the latter department. Equally, he may be worse.

Finally, the article states that students in the humanities and social sciences also make a great contribution to the future of our society (often in a severely economical fashion) as those entering industry and commerce. Perhaps they do, but this assumption cannot be proved. One cannot disagree with the conclusion that "universities are about learning, culture, civilisation as much as they are about jobs". This confirms that jobs (like learning, culture and civilisation) are important! Yours faithfully,  
PROFESSOR J. E. FLOOD,  
Department of Electrical & Electronic Engineering,  
University of Aston.

### Economic teaching

Sir, - I read Graham Hallett's splendid *The economic crisis and the crisis in economics* (*THES*, August 7) with all the melancholy of enthusiasm aroused by another statement of one's lifelong viewpoint at the point of retirement. When I returned to teach economics for business students from a not unsuccessful career in business, a sceptical view of neo-Keynesian macroeconomics guaranteed my non-appointment in any British university department. Even in the polytechnic sector a conviction that (a) microeconomics as Marshallian-Austrian market theory can make a critical practical contribution and (b) ideological mac-roeconomics should be labelled political economy with some place for the non-market, has ensured my exclusion from undergraduate business teaching.

I know nothing of the teaching of economics at A level but I am certain that the superior performance of executives in America is not unrelated to the excellence of the teaching of microeconomics in their business programmes. My common-room friendships over 15 years in Britain could not have been more agreeable but as an economist, I look forward to rather more rewarding 'student-contact hours' as a professor of management on a USA campus.

DR RALPH HORWITZ,  
Principal Lecturer in Management,  
Polytechnic of South Bank.

### Union view

## Social pariahs of the senior common room

I've a terrible confession to make. No doubt it will lead to scowls and raised eyebrows at our next meeting with the AUT and votes of censure at the NUS December conference but nevertheless I must admit it. I've begun to feel rather sorry for the University Grants Committee.

All of a sudden, following a lifetime of flattery and deference, the members of the UGC have become the social pariahs of the senior common room. After years as the "buffer" between government and universities, the guardians of "autonomy" and "civilisation-as-we-know-it", they've become the biggest threat to academic life since audiovisual aids.

In the space of the last month the UGC has had to face the full force of Neil Kinnock's rhetoric, the AUT's new-found commitment to public accountability, and Laurie Taylor's column in *The Times*. Personally, I can't see what all the fuss is about. We've known since March that higher education would have to sustain major cutbacks over the next three years, that the UGC would adopt a highly selective approach in making those cuts and that it criteria would be varied at best and totally incompressible at worst. NUS and many others have been saying for years that the UGC is undemocratic and unaccountable, insulating universities not so much from state interference as from the real educational needs of the community.

The extent to which UGC continues to perpetuate the elitism of traditional academia is a reflection of the lack of popular support enjoyed by higher education, particularly the universities. Higher education has completely failed to develop and win a public case for itself.



The nominal representatives of the major colleges - the Vice-Chancellors' Committee and the CDP - have failed to become a truly national voice for their sectors of education. The CVC rumbles magisterially about cutbacks to the Government and the press, while its most prominent members cannot conceal their relief at how tightly their prestigious institutions have been treated.

But all is not quite as gloomy as I've suggested so far. There is a growing recognition that the battles we all face can only be won by restoring public confidence in education as a whole. Jobs and libraries, staff-student ratios and student unions can only be defended through a campaign that will win support for a more popular and assessable form of higher education. The TIC-sponsored Education Alliance is starting to point the way in which that campaign can be developed.

I believe students will play a major role within the Alliance. They are already displaying a new sense of realism and political maturity. The student union at Huddersfield Polytechnic was undoubtedly instrumental in taking its college beyond the introspective confines of a sordid row with its local authority. And at Salford University, the student union has masterminded a "corporate plan" for the future of the university and is now busy winning support for it within the institution and the outside world.

I'm hoping that all this will lead, not to UGC members being shunned or avoided, but to the quiet and peaceful retirement I'm sure such fine "buffers" deserve.

Andrew Pearmain

The author is vice-president (education) of the National Union of Students.